Megan L Mccain

List of Publications by Year
in descending order

48 papers	3,377 citations	331670 21 h-index	276875 41 g-index
50 all docs	50 docs citations	50 times ranked	5046 citing authors

#	Article	IF	Citations
1	Modeling the mitochondrial cardiomyopathy of Barth syndrome with induced pluripotent stem cell and heart-on-chip technologies. Nature Medicine, 2014, 20, 616-623.	30.7	733
2	A tissue-engineered jellyfish with biomimetic propulsion. Nature Biotechnology, 2012, 30, 792-797.	17.5	536
3	Ensembles of engineered cardiac tissues for physiological and pharmacological study: Heart on a chip. Lab on A Chip, 2011, 11, 4165.	6.0	452
4	Mechanotransduction: the role of mechanical stress, myocyte shape, and cytoskeletal architecture on cardiac function. Pflugers Archiv European Journal of Physiology, 2011, 462, 89-104.	2.8	184
5	Micromolded gelatin hydrogels for extended culture of engineered cardiac tissues. Biomaterials, 2014, 35, 5462-5471.	11.4	182
6	Muscle on a chip: In vitro contractility assays for smooth and striated muscle. Journal of Pharmacological and Toxicological Methods, 2012, 65, 126-135.	0.7	147
7	Cooperative coupling of cell-matrix and cellâ€“cell adhesions in cardiac muscle. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 9881-9886.	7.1	143
8	Recapitulating maladaptive, multiscale remodeling of failing myocardium on a chip. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 9770-9775.	7.1	133
9	Prolonged Culture of Aligned Skeletal Myotubes on Micromolded Gelatin Hydrogels. Scientific Reports, 2016, 6, 28855.	3.3	106
10	Matrix elasticity regulates the optimal cardiac myocyte shape for contractility. American Journal of Physiology - Heart and Circulatory Physiology, 2014, 306, H1525-H1539.	3.2	93
11	Connexin43 ablation in foetal atrial myocytes decreases electrical coupling, partner connexins, and sodium current. Cardiovascular Research, 2012, 94, 58-65.	3.8	64
12	Cell-to-cell coupling in engineered pairs of rat ventricular cardiomyocytes: relation between Cx43 immunofluorescence and intercellular electrical conductance. American Journal of Physiology - Heart and Circulatory Physiology, 2012, 302, H443-H450.	3.2	58
13	Mitochondrial function in engineered cardiac tissues is regulated by extracellular matrix elasticity and tissue alignment. American Journal of Physiology - Heart and Circulatory Physiology, 2017, 313, H757-H767.	3.2	48
14	Featured Article: TGF-Î²1 dominates extracellular matrix rigidity for inducing differentiation of human cardiac fibroblasts to myofibroblasts. Experimental Biology and Medicine, 2018, 243, 601-612.	2.4	48
15	Electrical Coupling and Propagation in Engineered Ventricular Myocardium With Heterogeneous Expression of Connexin43. Circulation Research, 2012, 110, 1445-1453.	4.5	46
16	Coupling primary and stem cellâ€“derived cardiomyocytes in an in vitro model of cardiac cell therapy. Journal of Cell Biology, 2016, 212, 389-397.	5.2	45
17	Toward improved myocardial maturity in an organ-on-chip platform with immature cardiac myocytes. Experimental Biology and Medicine, 2017, 242, 1643-1656.	2.4	38
18	Cytoskeletal prestress regulates nuclear shape and stiffness in cardiac myocytes. Experimental Biology and Medicine, 2015, 240, 1543-1554.	2.4	33

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19	Characterization of Gelatin Hydrogels Cross-Linked with Microbial Transglutaminase as Engineered Skeletal Muscle Substrates. Bioengineering, 2021, 8, 6.	3.5	27
20	Tumor-Associated Embryonic Antigen-Expressing Vaccines that Target CCR6 Elicit Potent CD8+ T Cell-Mediated Protective and Therapeutic Antitumor Immunity. Journal of Immunology, 2007, 179, 1381-1388.	0.8	24
21	Angiotensin II Induced Cardiac Dysfunction on a Chip. PLoS ONE, 2016, 11, e0146415.	2.5	24
22	Engineering cardiac microphysiological systems to model pathological extracellular matrix remodeling. American Journal of Physiology - Heart and Circulatory Physiology, 2018, 315, H771-H789.	3.2	24
23	Neuromuscular disease modeling on a chip. DMM Disease Models and Mechanisms, 2020, 13, .	2.4	23
24	Engineering micromyocardium to delineate cellular and extracellular regulation of myocardial tissue contractility. Integrative Biology (United Kingdom), 2017, 9, 730-741.	1.3	21
25	Microenvironmental Modulation of Calcium Wave Propagation Velocity in Engineered Cardiac Tissues. Cellular and Molecular Bioengineering, 2018, 11, 337-352.	2.1	21
26	Engineering skeletal muscle tissues with advanced maturity improves synapse formation with human induced pluripotent stem cell-derived motor neurons. APL Bioengineering, 2021, 5, 036101.	6.2	13
27	Fabrication of Micromolded Gelatin Hydrogels for Long-Term Culture of Aligned Skeletal Myotubes. Methods in Molecular Biology, 2017, 1668, 147-163.	0.9	13
28	Matrix-guided control of mitochondrial function in cardiac myocytes. Acta Biomaterialia, 2019, 97, 281-295.	8.3	11
29	Extended culture and imaging of normal and regenerating adult zebrafish hearts in a fluidic device. Lab on A Chip, 2020, 20, 274-284.	6.0	11
30	Mitochondrial architecture in cardiac myocytes depends on cell shape and matrix rigidity. Journal of Molecular and Cellular Cardiology, 2021, 150, 32-43.	1.9	11
31	Engineering the Cellular Microenvironment of Post-infarct Myocardium on a Chip. Frontiers in Cardiovascular Medicine, 2021, 8, 709871.	2.4	11
32	Mitochondrial division inhibitor 1 (mdiviâ€1) increases oxidative capacity and contractile stress generated by engineered skeletal muscle. FASEB Journal, 2020, 34, 11562-11576.	0.5	9
33	Regulation of calcium dynamics and propagation velocity by tissue microstructure in engineered strands of cardiac tissue. Integrative Biology (United Kingdom), 2020, 12, 34-46.	1.3	9
34	Optical Clearing of Skeletal Muscle Bundles Engineered in 3-D Printed Templates. Annals of Biomedical Engineering, 2021, 49, 523-535.	2.5	8
35	Contact photolithography-free integration of patterned and semi-transparent indium tin oxide stimulation electrodes into polydimethylsiloxane-based heart-on-a-chip devices for streamlining physiological recordings. Lab on A Chip, 2021, 21, 674-687.	6.0	7
36	Heterogeneous <i>pdgfrb+</i> cells regulate coronary vessel development and revascularization during heart regeneration. Development (Cambridge), 2022, 149, .	2.5	6

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37	Engineering Cardiac Cell Junctions<i>In Vitro</i>to Study the Intercalated Disc. Cell Communication and Adhesion, 2014, 21, 181-191.	1.0	4
38	Tools, techniques, and future opportunities for characterizing the mechanobiology of uterine myometrium. Experimental Biology and Medicine, 2021, 246, 1025-1035.	2.4	4
39	Modeling Patient-Specific Muscular Dystrophy Phenotypes and Therapeutic Responses in Reprogrammed Myotubes Engineered on Micromolded Gelatin Hydrogels. Frontiers in Cell and Developmental Biology, 2022, 10, 830415.	3.7	4
40	Engineering Shape-Controlled Microtissues on Compliant Hydrogels with Tunable Rigidity and Extracellular Matrix Ligands. Methods in Molecular Biology, 2021, 2258, 57-72.	0.9	2
41	From mini-brains to neural networks. Science Translational Medicine, 2019, 11, .	12.4	1
42	Cardiac tissue models. , 2019, , 209-248.		0
43	An Engineered Myocardial Infarct Borderâ€Zoneâ€onâ€aâ€Chip Demonstrates an Oxygen Gradient Alters Cardiomyocyte Calcium Handling. FASEB Journal, 2021, 35, .	0.5	0
44	Abstract 308: An in vitro Model of Cardiac Stem Cell Therapy to Study the Coupling of Primary and Stem Cell-derived Cardiomyocytes. Circulation Research, 2015, 117, .	4.5	0
45	Organs-on-chips take baby steps. Science Translational Medicine, 2019, 11, .	12.4	0
46	Placing skin cells on the assembly line for cardiac repair. Science Translational Medicine, 2019, 11, .	12.4	0
47	Cyborg fibroblasts: Cardiac pacemakers of the future?. Science Translational Medicine, 2019, 11, .	12.4	0
48	Drilling down in the fight against bacterial superbugs. Science Translational Medicine, 2020, 12, .	12.4	0