William Merryman

List of Publications by Year
in descending order

#	Article	IF	Citations
1	Cell-programmed nutrient partitioning in the tumour microenvironment. Nature, 2021, 593, 282-288.	27.8	491
2	On the biomechanics of heart valve function. Journal of Biomechanics, 2009, 42, 1804-1824.	2.1	306
3	Correlation between heart valve interstitial cell stiffness and transvalvular pressure: implications for collagen biosynthesis. American Journal of Physiology - Heart and Circulatory Physiology, 2006, 290, H224-H231.	3.2	183
4	Serotonin receptors and heart valve diseaseâ€"It was meant 2B. , 2011, 132, 146-157.		175
5	Synergistic effects of cyclic tension and transforming growth factor-Î²1 on the aortic valve myofibroblast. Cardiovascular Pathology, 2007, 16, 268-276.	1.6	152
6	Matrigel Mattress. Circulation Research, 2015, 117, 995-1000.	4.5	148
7	Potential drug targets for calcific aortic valve disease. Nature Reviews Cardiology, 2014, 11, 218-231.	13.7	123
8	In-Vivo Dynamic Deformation of the Mitral Valve Anterior Leaflet. Annals of Thoracic Surgery, 2006, 82, 1369-1377.	1.3	122
9	The effects of cellular contraction on aortic valve leaflet flexural stiffness. Journal of Biomechanics, 2006, 39, 88-96.	2.1	110
10	Sensing and Modulation of Invadopodia across a Wide Range of Rigidities. Biophysical Journal, 2011, 100, 573-582.	0.5	108
11	Mechanobiology of myofibroblast adhesion in fibrotic cardiac disease. Journal of Cell Science, 2015, 128, 1865-1875.	2.0	108
12	5-HT2B antagonism arrests non-canonical TGF-Î²1-induced valvular myofibroblast differentiation. Journal of Molecular and Cellular Cardiology, 2012, 53, 707-714.	1.9	92
13	Cadherin-11 Regulates Cellâ€"Cell Tension Necessary for Calcific Nodule Formation by Valvular Myofibroblasts. Arteriosclerosis, Thrombosis, and Vascular Biology, 2013, 33, 114-120.	2.4	87
14	Calcific nodule morphogenesis by heart valve interstitial cells is strain dependent. Biomechanics and Modeling in Mechanobiology, 2013, 12, 5-17.	2.8	85
15	Tissue-to-cellular level deformation coupling in cell micro-integrated elastomeric scaffolds. Biomaterials, 2008, 29, 3228-3236.	11.4	74
16	Differences in Tissue-Remodeling Potential of Aortic and Pulmonary Heart Valve Interstitial Cells. Tissue Engineering, 2007, 13, 2281-2289.	4.6	67
17	Identification of a common Wnt-associated genetic signature across multiple cell types in pulmonary arterial hypertension. American Journal of Physiology - Cell Physiology, 2014, 307, C415-C430.	4.6	64
18	EMT-Inducing Biomaterials for Heart Valve Engineering: Taking Cues from Developmental Biology. Journal of Cardiovascular Translational Research, 2011, 4, 658-671.	2.4	60

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19	In vitro models of aortic valve calcification: solidifying a system. Cardiovascular Pathology, 2015, 24, 1-10.	1.6	53
20	Mechano-potential etiologies of aortic valve disease. Journal of Biomechanics, 2010, 43, 87-92.	2.1	52
21	Notch1 Mutation Leads to Valvular Calcification Through Enhanced Myofibroblast Mechanotransduction. Arteriosclerosis, Thrombosis, and Vascular Biology, 2015, 35, 1597-1605.	2.4	49
22	Adaptive immune cells in calcific aortic valve disease. American Journal of Physiology - Heart and Circulatory Physiology, 2019, 317, H141-H155.	3.2	47
23	I-Wire Heart-on-a-Chip II: Biomechanical analysis of contractile, three-dimensional cardiomyocyte tissue constructs. Acta Biomaterialia, 2017, 48, 79-87.	8.3	46
24	Mechanisms of Calcification in Aortic Valve Disease: Role of Mechanokinetics and Mechanodynamics. Current Cardiology Reports, 2013, 15, 355.	2.9	44
25	Serotonin 2B Receptor Antagonism Prevents Heritable Pulmonary Arterial Hypertension. PLoS ONE, 2016, 11, e0148657.	2.5	43
26	Evaluating Medical Therapy for Calcific Aortic Stenosis. Journal of the American College of Cardiology, 2021, 78, 2354-2376.	2.8	43
27	Precise Tuning of Cortical Contractility Regulates Cell Shape during Cytokinesis. Cell Reports, 2020, 31, 107477.	6.4	39
28	Targeting Cadherin-11 Prevents Notch1-Mediated Calcific Aortic Valve Disease. Circulation, 2017, 135, 2448-2450.	1.6	37
29	Intracellular Ca2+ accumulation is strain-dependent and correlates with apoptosis in aortic valve fibroblasts. Journal of Biomechanics, 2012, 45, 888-894.	2.1	36
30	Targeting 5-HT _{2B} Receptor Signaling Prevents Border Zone Expansion and Improves Microstructural Remodeling After Myocardial Infarction. Circulation, 2021, 143, 1317-1330.	1.6	36
31	Disruption of lineage specification in adult pulmonary mesenchymal progenitor cells promotes microvascular dysfunction. Journal of Clinical Investigation, 2017, 127, 2262-2276.	8.2	35
32	Cadherin-11 as a regulator of valve myofibroblast mechanobiology. American Journal of Physiology - Heart and Circulatory Physiology, 2018, 315, H1614-H1626.	3.2	34
33	Wnt/Î2-Catenin in Acute Kidney Injury and Progression to Chronic Kidney Disease. Seminars in Nephrology, 2020, 40, 126-137.	1.6	34
34	A novel technique for quantifying mouse heart valve leaflet stiffness with atomic force microscopy. Journal of Heart Valve Disease, 2012, 21, 513-20.	0.5	34
35	Cadherin-11 blockade reduces inflammation-driven fibrotic remodeling and improves outcomes after myocardial infarction. JCI Insight, 2019, 4, .	5.0	33
36	Viscoelastic Properties of the Aortic Valve Interstitial Cell. Journal of Biomechanical Engineering, 2009, 131, 041005.	1.3	32

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37	Mouse Models of Heart Failure with Preserved or Reduced Ejection Fraction. American Journal of Pathology, 2020, 190, 1596-1608.	3.8	28
38	Defining biomechanical endpoints for tissue engineered heart valve leaflets from native leaflet properties. Progress in Pediatric Cardiology, 2006, 21, 153-160.	0.4	26
39	Microvessel Mechanobiology in Pulmonary Arterial Hypertension. Hypertension, 2015, 65, 483-489.	2.7	25
40	Macrophages Promote Aortic Valve Cell Calcification and Alter STAT3 Splicing. Arteriosclerosis, Thrombosis, and Vascular Biology, 2020, 40, e153-e165.	2.4	24
41	Development of a Simultaneous Cryo-Anchoring and Radiofrequency Ablation Catheter for Percutaneous Treatment of Mitral Valve Prolapse. Annals of Biomedical Engineering, 2012, 40, 1971-1981.	2.5	18
42	Myocardial contraction and hyaluronic acid mechanotransduction inÂepithelial-to-mesenchymal transformation of endocardial cells. Biomaterials, 2014, 35, 2809-2815.	11.4	18
43	Circulating prostate cancer cells have differential resistance to fluid shear stress-induced cell death. Journal of Cell Science, 2021, 134, .	2.0	18
44	Bone Marrowâ€"Derived Proangiogenic Cells Mediate Pulmonary Arteriole Stiffening via Serotonin 2B Receptor Dependent Mechanism. Circulation Research, 2018, 123, e51-e64.	4.5	17
45	Biophysical Analysis of Dystrophic and Osteogenic Models of Valvular Calcification. Journal of Biomechanical Engineering, 2015, 137, 020903.	1.3	16
46	Common pathways regulate Type III TGFÎ² receptor-dependent cell invasion in epicardial and endocardial cells. Cellular Signalling, 2016, 28, 688-698.	3.6	16
47	Celecoxib Is Associated With DystrophicÂCalcification and Aortic ValveÂStenosis. JACC Basic To Translational Science, 2019, 4, 135-143.	4.1	16
48	Radiofrequency Ablation Directionally Alters Geometry and Biomechanical Compliance of Mitral Valve Leaflets: Refinement of a Novel Percutaneous Treatment Strategy. Cardiovascular Engineering and Technology, 2010, 1, 194-201.	1.6	15
49	Development of a Tissue Engineered Heart Valve for Pediatrics: A Case Study in Bioengineering Ethics. Science and Engineering Ethics, 2008, 14, 93-101.	2.9	13
50	Network Modeling Approach to Predict Myofibroblast Differentiation. Cellular and Molecular Bioengineering, 2014, 7, 446-459.	2.1	13
51	Cadherin-11 and cardiac fibrosis: A common target for a common pathology. Cellular Signalling, 2021, 78, 109876.	3.6	13
52	Loss of CENP-F Results in Dilated Cardiomyopathy with Severe Disruption of Cardiac Myocyte Architecture. Scientific Reports, 2018, 8, 7546.	3.3	12
53	Unloading the Stenotic Path to Identifying Medical Therapy for Calcific Aortic Valve Disease. Circulation, 2021, 143, 1455-1457.	1.6	12
54	Genetic ablation of serotonin receptor 2B improves aortic valve hemodynamics of Notch1 heterozygous mice in a high-cholesterol diet model. PLoS ONE, 2020, 15, e0238407.	2.5	11

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55	Lnc-ing <i>NOTCH1</i> to Idiopathic Calcific Aortic Valve Disease. Circulation, 2016, 134, 1863-1865.	1.6	8
56	Impaired macrophage trafficking and increased helper T-cell recruitment with loss of cadherin-11 in atherosclerotic immune response. American Journal of Physiology - Heart and Circulatory Physiology, 2021, 321, H756-H769.	3.2	8
57	Insights Into (the Interstitium of) Degenerative Aortic Valve Disease. Journal of the American College of Cardiology, 2008, 51, 1415.	2.8	7
58	Loss of flow responsive Tie1 results in Impairedâ€¨Aortic valve remodeling. Developmental Biology, 2019, 455, 73-84.	2.0	7
59	Notch1 suppression by microRNA-34a: a new mechanism of calcific aortic valve disease. Cardiovascular Research, 2020, 116, 871-873.	3.8	6
60	Side-specific valvular endothelial-interstitial cell mechano-communication via cadherin-11. Journal of Biomechanics, 2021, 119, 110253.	2.1	6
61	The once and future state of percutaneous mitral valve repair. Future Cardiology, 2012, 8, 779-793.	1.2	5
62	A developmental approach to induced pluripotent stem cells-based tissue engineered heart valves. Future Cardiology, 2017, 13, 1-4.	1.2	5
63	In vitro assessment of a combined radiofrequency ablation and cryo-anchoring catheter for treatment of mitral valve prolapse. Journal of Biomechanics, 2014, 47, 973-980.	2.1	4
64	Inhibition of focal adhesion kinase increases myofibril viscosity in cardiac myocytes. Cytoskeleton, 2020, 77, 342-350.	2.0	4
65	Loss of talin in cardiac fibroblasts results in augmented ventricular cardiomyocyte hypertrophy in response to pressure overload. American Journal of Physiology - Heart and Circulatory Physiology, 2022, 322, H857-H866.	3.2	4
66	Evaluation of early bilateral ovariectomy in mice as a model of left heart disease. American Journal of Physiology - Heart and Circulatory Physiology, 2022, 322, H1080-H1085.	3.2	4
67	Characterisation of aortic stenosis severity: a retrospective analysis of echocardiography reports in a clinical laboratory. Open Heart, 2020, 7, e001331.	2.3	3
68	Cyclic Strain Promotes H19 Expression and Vascular Tube Formation in iPSC-Derived Endothelial Cells. Cellular and Molecular Bioengineering, 2020, 13, 369-377.	2.1	3
69	What modulates the aortic valve interstitial cell phenotype?. Future Cardiology, 2008, 4, 247-252.	1.2	2
70	H19 is not hypomethylated or upregulated with age or sex in the aortic valves of mice. Physiological Reports, 2019, 7, e14244.	1.7	2
71	Aortic Valve Interstitial Cell Viscoelasticity. , 2007, , .		2
72	Antagonism of the 5â€HT2B receptor prevents TGFâ€beta1 effects in aortic valve fibroblasts. FASEB Journal, 2011, 25, 177.5.	0.5	2

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73	The Role of SRC in Strain- and Ligand- Dependent Phenotypic Modulation of Mouse Embryonic Fibroblasts. , 2011, , .		1
74	The Intrinsic Fatigue Mechanism of the Porcine Aortic Valve Extracellular Matrix. Cardiovascular Engineering and Technology, 2012, 3, 62-72.	1.6	1
75	Quantitative Imaging Assessment of an Alternative Approach to Surgical Mitral Valve Leaflet Resection: An Acute Porcine Study. Annals of Biomedical Engineering, 2016, 44, 2240-2250.	2.5	1
76	The CNP/NPR-B/cGMP Axis is a Therapeutic Target in Calcific AorticÂStenosis. JACC Basic To Translational Science, 2021, 6, 1003-1006.	4.1	1
77	Cellular Deformations in Microintegrated Electrospun Poly (Ester Urethane) Urea Scaffolds Under Biaxial Stretch. , 2007, , .		0
78	Cover Image, Volume 77, Issue 9. Cytoskeleton, 2020, 77, C1.	2.0	0
79	5-HT2B Receptor in Cardiopulmonary Disease. Receptors, 2021, , 165-187.	0.2	0
80	DCBL2 Deficiency Contributes to Aortic Stenosis via Increased BMP2 Signaling. JACC Basic To Translational Science, 2022, 7, 346-347.	4.1	0