Thomas Eschenhagen

List of Publications by Year
in descending order

124 papers	10,208 citations	53660 45 h-index	35952 97 g-index
128 all docs	128 docs citations	128 times ranked	10171 citing authors

#	Article	IF	Citations
1	How to repair a broken heart with pluripotent stem cell-derived cardiomyocytes. Journal of Molecular and Cellular Cardiology, 2022, 163, 106-117.	0.9	14
2	Recapitulation of dyssynchrony-associated contractile impairment in asymmetrically paced engineered heart tissue. Journal of Molecular and Cellular Cardiology, 2022, 163, 97-105.	0.9	1
3	SERCA2a gain of function in patient-derived R14Del hiPSC-CMs. Journal of General Physiology, 2022, 154, .	0.9	0
4	Targeted therapies in genetic dilated and hypertrophic cardiomyopathies: from molecular mechanisms to therapeutic targets. A position paper from the Heart Failure Association (HFA) and the Working Group on Myocardial Function of the European Society of Cardiology (ESC). European Journal of Heart Failure, 2022, 24, 406-420.	2.9	22
5	Animal models and animal-free innovations for cardiovascular research: current status and routes to be explored. Consensus document of the ESC Working Group on Myocardial Function and the ESC Working Group on Cellular Biology of the Heart. Cardiovascular Research, 2022, 118, 3016-3051.	1.8	30
6	Comprehensive analyses of the inotropic compound omecamtiv mecarbil in rat and human cardiac preparations. American Journal of Physiology - Heart and Circulatory Physiology, 2022, 322, H373-H385.	1.5	11
7	Human engineered heart tissue transplantation in a guinea pig chronic injury model. Journal of Molecular and Cellular Cardiology, 2022, 166, 1-10.	0.9	12
8	A potential future Fontan modification: preliminary <i>in vitro</i> data of a pressure-generating tube from engineered heart tissue. European Journal of Cardio-thoracic Surgery, 2022, 62, .	0.6	3
9	PPARdelta activation induces metabolic and contractile maturation of human pluripotent stem cell-derived cardiomyocytes. Cell Stem Cell, 2022, 29, 559-576.e7.	5.2	34
10	Piezo2 is not an indispensable mechanosensor in murine cardiomyocytes. Scientific Reports, 2022, 12, 8193.	1.6	1
11	Human-Engineered Atrial Tissue for Studying Atrial Fibrillation. Methods in Molecular Biology, 2022, , 159-173.	0.4	1
12	Towards standardization of echocardiography for the evaluation of left ventricular function in adult rodents: a position paper of the ESC Working Group on Myocardial Function. Cardiovascular Research, 2021, 117, 43-59.	1.8	72
13	No impact of sex and age on betaâ€adrenoceptorâ€mediated inotropy in human right atrial trabeculae. Acta Physiologica, 2021, 231, e13564.	1.8	5
14	Cardiac Regeneration: New Hope for an Old Dream. Annual Review of Physiology, 2021, 83, 59-81.	5.6	28
15	Impact of phosphodiesterases PDE3 and PDE4 on 5-hydroxytryptamine receptor4-mediated increase of cAMP in human atrial fibrillation. Naunyn-Schmiedeberg's Archives of Pharmacology, 2021, 394, 291-298.	1.4	11
16	Blunted beta-adrenoceptor-mediated inotropy in valvular cardiomyopathy: another piece of the puzzle in human aortic valve disease. European Journal of Cardio-thoracic Surgery, 2021, 60, 56-63.	0.6	2
17	Are atrial human pluripotent stem cell-derived cardiomyocytes ready to identify drugs that beat atrial fibrillation?. Nature Communications, 2021, 12, 1725.	5.8	11
18	Statins Do More Than Lower Cholesterolâ€"Depending on What You Eat?. Circulation, 2021, 143, 1793-1796.	1.6	6

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19	Hypertrophic signaling compensates for contractile and metabolic consequences of DNA methyltransferase 3A loss in human cardiomyocytes. Journal of Molecular and Cellular Cardiology, 2021, 154, 115-123.	0.9	3
20	Sulforaphane exposure impairs contractility and mitochondrial function in three-dimensional engineered heart tissue. Redox Biology, 2021, 41, 101951.	3.9	11
21	Impairment of the ER/mitochondria compartment in human cardiomyocytes with PLN p.Arg14del mutation. EMBO Molecular Medicine, 2021, 13, e13074.	3.3	34
22	Human Engineered Heart Tissue Patches Remuscularize the Injured Heart in a Dose-Dependent Manner. Circulation, 2021, 143, 1991-2006.	1.6	73
23	Regulation of basal and norepinephrine-induced cAMP and ICa in hiPSC-cardiomyocytes: Effects of culture conditions and comparison to adult human atrial cardiomyocytes. Cellular Signalling, 2021, 82, 109970.	1.7	4
24	In vivo grafting of large engineered heart tissue patches for cardiac repair. JCI Insight, 2021, 6, .	2.3	23
25	Generation of bi-allelic MYBPC3 truncating mutant and isogenic control from an iPSC line of a patient with hypertrophic cardiomyopathy. Stem Cell Research, 2021, 55, 102489.	0.3	1
26	Translational investigation of electrophysiology in hypertrophic cardiomyopathy. Journal of Molecular and Cellular Cardiology, 2021, 157, 77-89.	0.9	16
27	Angiotensin II receptor blocker intake associates with reduced markers of inflammatory activation and decreased mortality in patients with cardiovascular comorbidities and COVID-19 disease. PLoS ONE, 2021, 16, e0258684.	1.1	5
28	Intermittent Optogenetic Tachypacing of Atrial Engineered Heart Tissue Induces Only Limited Electrical Remodelling. Journal of Cardiovascular Pharmacology, 2021, 77, 291-299.	0.8	11
29	Incomplete Assembly of the Dystrophin-Associated Protein Complex in 2D and 3D-Cultured Human Induced Pluripotent Stem Cell-Derived Cardiomyocytes. Frontiers in Cell and Developmental Biology, 2021, 9, 737840.	1.8	10
30	Characterization of the PLN p.Arg14del Mutation in Human Induced Pluripotent Stem Cell-Derived Cardiomyocytes. International Journal of Molecular Sciences, 2021, 22, 13500.	1.8	16
31	Human pluripotent stem cell-derived cardiomyocytes for studying energy metabolism. Biochimica Et Biophysica Acta - Molecular Cell Research, 2020, 1867, 118471.	1.9	43
32	Chronic intermittent tachypacing by an optogenetic approach induces arrhythmia vulnerability in human engineered heart tissue. Cardiovascular Research, 2020, 116, 1487-1499.	1.8	38
33	Targeting muscle-enriched long non-coding RNA <i>H19</i> reverses pathological cardiac hypertrophy. European Heart Journal, 2020, 41, 3462-3474.	1.0	81
34	Metabolic Maturation Media Improve Physiological Function of Human iPSC-Derived Cardiomyocytes. Cell Reports, 2020, 32, 107925.	2.9	198
35	Comparison of 10 Control hPSC Lines for Drug Screening in an Engineered Heart Tissue Format. Stem Cell Reports, 2020, 15, 983-998.	2.3	45
36	Common mechanistic pathways in cancer and heart failure. A scientific roadmap on behalf of the <scp>Translational Research Committee</scp> of the <scp>Heart Failure Association</scp> (<scp>HFA</scp>) of the <scp>European Society of Cardiology</scp> (<scp>ESC</scp>). European Journal of Heart Failure, 2020, 22, 2272-2289.	2.9	92

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37	An Important Role for DNMT3A-Mediated DNA Methylation in Cardiomyocyte Metabolism and Contractility. Circulation, 2020, 142, 1562-1578.	1.6	38
38	Cell Banking of hiPSCs: A Practical Guide to Cryopreservation and Quality Control in Basic Research. Current Protocols in Stem Cell Biology, 2020, 55, e127.	3.0	10
39	SARS-CoV-2 infects and induces cytotoxic effects in human cardiomyocytes. Cardiovascular Research, 2020, 116, 2207-2215.	1.8	189
40	Blinded, Multicenter Evaluation of Drug-induced Changes in Contractility Using Human-induced Pluripotent Stem Cell-derived Cardiomyocytes. Toxicological Sciences, 2020, 176, 103-123.	1.4	51
41	Regulation of I Ca,L and force by PDEs in humanâ€induced pluripotent stem cellâ€derived cardiomyocytes. British Journal of Pharmacology, 2020, 177, 3036-3045.	2.7	10
42	Case Report on: Very Early Afterdepolarizations in HiPSC-Cardiomyocytesâ€"An Artifact by Big Conductance Calcium Activated Potassium Current (Ibk,Ca). Cells, 2020, 9, 253.	1.8	10
43	Force and Calcium Transients Analysis in Human Engineered Heart Tissues Reveals Positive Force-Frequency Relation at Physiological Frequency. Stem Cell Reports, 2020, 14, 312-324.	2.3	40
44	Aging-regulated anti-apoptotic long non-coding RNA Sarrah augments recovery from acute myocardial infarction. Nature Communications, 2020, 11, 2039.	5.8	63
45	Magnetic Adjustment of Afterload in Engineered Heart Tissues. Journal of Visualized Experiments, 2020, , .	0.2	0
46	Human iPS cell-derived engineered heart tissue does not affect ventricular arrhythmias in a guinea pig cryo-injury model. Scientific Reports, 2019, 9, 9831.	1.6	28
47	Disease modeling of a mutation in Î±â€actinin 2 guides clinical therapy in hypertrophic cardiomyopathy. EMBO Molecular Medicine, 2019, 11, e11115.	3.3	88
48	Blockade of miR-140-3p prevents functional deterioration in afterload-enhanced engineered heart tissue. Scientific Reports, 2019, 9, 11494.	1.6	7
49	Simultaneous measurement of excitation-contraction coupling parameters identifies mechanisms underlying contractile responses of hiPSC-derived cardiomyocytes. Nature Communications, 2019, 10, 4325.	5.8	51
50	Long Noncoding RNA-Enriched Vesicles Secreted by Hypoxic Cardiomyocytes Drive Cardiac Fibrosis. Molecular Therapy - Nucleic Acids, 2019, 18, 363-374.	2.3	83
51	Magnetics-Based Approach for Fine-Tuning Afterload in Engineered Heart Tissues. ACS Biomaterials Science and Engineering, 2019, 5, 3663-3675.	2.6	15
52	Implantation of hiPSC-derived Cardiac-muscle Patches after Myocardial Injury in a Guinea Pig Model. Journal of Visualized Experiments, 2019, , .	0.2	13
53	Heart Repair With Myocytes. Circulation Research, 2019, 124, 843-845.	2.0	10
54	Toward Secondâ€Generation Cardiomyogenic and Antiâ€cardiofibrotic 1,4â€Dihydropyridineâ€Class TGFÎ² Inhibitors. ChemMedChem, 2019, 14, 810-822.	1.6	11

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55	Phosphomimetic cardiac myosin-binding protein C partially rescues a cardiomyopathy phenotype in murine engineered heart tissue. Scientific Reports, 2019, 9, 18152.	1.6	13
56	Piezo-bending actuators for isometric or auxotonic contraction analysis of engineered heart tissue. Journal of Tissue Engineering and Regenerative Medicine, 2019, 13, 3-11.	1.3	22
57	Cardiomyopathy phenotypes in human-induced pluripotent stem cell-derived cardiomyocytesâ€"a systematic review. Pflugers Archiv European Journal of Physiology, 2019, 471, 755-768.	1.3	57
58	Mechanistic role of the CREB-regulated transcription coactivator 1 in cardiac hypertrophy. Journal of Molecular and Cellular Cardiology, 2019, 127, 31-43.	0.9	5
59	Low Resting Membrane Potential and Low Inward Rectifier Potassium Currents Are Not Inherent Features of hiPSC-Derived Cardiomyocytes. Stem Cell Reports, 2018, 10, 822-833.	2.3	92
60	Contractile Work Contributes to Maturation of Energy Metabolism in hiPSC-Derived Cardiomyocytes. Stem Cell Reports, 2018, 10, 834-847.	2.3	148
61	Three-Dimensional Human iPSC-Derived Artificial Skeletal Muscles Model Muscular Dystrophies and Enable Multilineage Tissue Engineering. Cell Reports, 2018, 23, 899-908.	2.9	245
62	MUSCLEMOTION. Circulation Research, 2018, 122, e5-e16.	2.0	235
63	Normalization of force to muscle crossâ€sectional area: A helpful attempt to reduce data scattering in contractility studies?. Acta Physiologica, 2018, 224, e13202.	1.8	7
64	Atrial-like Engineered Heart Tissue: An InÂVitro Model of the Human Atrium. Stem Cell Reports, 2018, 11, 1378-1390.	2.3	132
65	Rat atrial engineered heart tissue: a new in vitro model to study atrial biology. Basic Research in Cardiology, 2018, 113, 41.	2.5	34
66	Pharmacological inhibition of DNA methylation attenuates pressure overload-induced cardiac hypertrophy in rats. Journal of Molecular and Cellular Cardiology, 2018, 120, 53-63.	0.9	42
67	No effect of thymosin betaâ€4 on the expression of the transcription factor Isletâ€1 in the adult murine heart. Pharmacology Research and Perspectives, 2018, 6, e00407.	1.1	1
68	Human Induced Pluripotent Stem Cellâ€"Derived Engineered Heart Tissue as a Sensitive Test System for QT Prolongation and Arrhythmic Triggers. Circulation: Arrhythmia and Electrophysiology, 2018, 11, e006035.	2.1	70
69	Clonal dynamics studied in cultured induced pluripotent stem cells reveal major growth imbalances within a few weeks. Stem Cell Research and Therapy, 2018, 9, 165.	2.4	8
70	CRISPR/Cas9 editing in human pluripotent stem cell-cardiomyocytes highlights arrhythmias, hypocontractility, and energy depletion as potential therapeutic targets for hypertrophic cardiomyopathy. European Heart Journal, 2018, 39, 3879-3892.	1.0	176
71	A new concept of fibroblast dynamics in postâ€"myocardial infarction remodeling. Journal of Clinical Investigation, 2018, 128, 1731-1733.	3.9	10
72	Differentiation of cardiomyocytes and generation of human engineered heart tissue. Nature Protocols, 2017, 12, 1177-1197.	5.5	197

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73	Blinded Contractility Analysis in hiPSC-Cardiomyocytes in Engineered Heart Tissue Format: Comparison With Human Atrial Trabeculae. Toxicological Sciences, 2017, 158, 164-175.	1.4	52
74	Engineering Cardiac Muscle Tissue. Circulation Research, 2017, 120, 1487-1500.	2.0	202
75	Evaluation of MYBPC3 trans -Splicing and Gene Replacement as Therapeutic Options in Human iPSC-Derived Cardiomyocytes. Molecular Therapy - Nucleic Acids, 2017, 7, 475-486.	2.3	74
76	Human iPSC-derived cardiomyocytes cultured in 3D engineered heart tissue show physiological upstroke velocity and sodium current density. Scientific Reports, 2017, 7, 5464.	1.6	140
77	Prominent differences in left ventricular performance and myocardial properties between right ventricular and left ventricular-based pacing modes in rats. Scientific Reports, 2017, 7, 5931.	1.6	21
78	Cardiomyocyte Regeneration. Circulation, 2017, 136, 680-686.	1.6	417
79	AkrinorTM, a Cafedrine/ Theodrenaline Mixture (20:1), Increases Force of Contraction of Human Atrial Myocardium But Does Not Constrict Internal Mammary Artery In Vitro. Frontiers in Pharmacology, 2017, 8, 272.	1.6	10
80	Exogenous Nitric Oxide Protects Human Embryonic Stem Cell-Derived Cardiomyocytes against Ischemia/Reperfusion Injury. Oxidative Medicine and Cellular Longevity, 2016, 2016, 1-9.	1.9	15
81	Analysis of Tyrosine Kinase Inhibitor-Mediated Decline in Contractile Force in Rat Engineered Heart Tissue. PLoS ONE, 2016, 11, e0145937.	1.1	36
82	Ca2+-Currents in Human Induced Pluripotent Stem Cell-Derived Cardiomyocytes Effects of Two Different Culture Conditions. Frontiers in Pharmacology, 2016, 7, 300.	1.6	47
83	Pharmacokinetics of the Experimental Nonâ€Nucleosidic DNA Methyl Transferase Inhibitor <i>N</i>â€Phthalylâ€<scp>l</scp>â€Tryptophan (RGÂ108) in Rats. Basic and Clinical Pharmacology and Toxicology, 2016, 118, 327-332.	1.2	16
84	Position Paper of the European Society of Cardiology Working Group Cellular Biology of the Heart: cell-based therapies for myocardial repair and regeneration in ischemic heart disease and heart failure. European Heart Journal, 2016, 37, 1789-1798.	1.0	210
85	Block of Na + /Ca 2+ exchanger by SEA0400 in human right atrial preparations from patients in sinus rhythm and in atrial fibrillation. European Journal of Pharmacology, 2016, 788, 286-293.	1.7	13
86	Cardiac repair in guinea pigs with human engineered heart tissue from induced pluripotent stem cells. Science Translational Medicine, 2016, 8, 363ra148.	5.8	215
87	Comparison of the effects of a truncating and a missense MYBPC3 mutation on contractile parameters of engineered heart tissue. Journal of Molecular and Cellular Cardiology, 2016, 97, 82-92.	0.9	48
88	Human Engineered Heart Tissue: Analysis of Contractile Force. Stem Cell Reports, 2016, 7, 29-42.	2.3	292
89	Human engineered heart tissue as a model system for drug testing. Advanced Drug Delivery Reviews, 2016, 96, 214-224.	6.6	146
90	Spontaneous Formation of Extensive Vessel-Like Structures in Murine Engineered Heart Tissue. Tissue Engineering - Part A, 2016, 22, 326-335.	1.6	19

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91	Myocardial tissue engineering for cardiac repair. Journal of Heart and Lung Transplantation, 2016, 35, 294-298.	0.3	15
92	<i>S</i> â€glutathiolation impairs phosphoregulation and function of cardiac myosinâ€binding protein C in human heart failure. FASEB Journal, 2016, 30, 1849-1864.	0.2	38
93	General practitioners' adherence to chronic heart failure guidelines regarding medication: the GP-HF study. Clinical Research in Cardiology, 2016, 105, 441-450.	1.5	32
94	Ranolazine antagonizes catecholamine-induced dysfunction in isolated cardiomyocytes, but lacks long-term therapeutic effects<i>in vivo</i>in a mouse model of hypertrophic cardiomyopathy. Cardiovascular Research, 2016, 109, 90-102.	1.8	38
95	DNA methylation in an engineered heart tissue model of cardiac hypertrophy: common signatures and effects of DNA methylation inhibitors. Basic Research in Cardiology, 2016, 111, 9.	2.5	27
96	Heart regeneration. Biochimica Et Biophysica Acta - Molecular Cell Research, 2016, 1863, 1749-1759.	1.9	25
97	Towards a Tissue-Engineered Contractile Fontan-Conduit: The Fate of Cardiac Myocytes in the Subpulmonary Circulation. PLoS ONE, 2016, 11, e0166963.	1.1	15
98	I-1-deficiency negatively impacts survival in a cardiomyopathy mouse model. IJC Heart and Vasculature, 2015, 8, 87-94.	0.6	3
99	Deciphering the microRNA signature of pathological cardiac hypertrophy by engineered heart tissue- and sequencing-technology. Journal of Molecular and Cellular Cardiology, 2015, 81, 1-9.	0.9	41
100	Prolonged action potentials in HCM-derived iPSC - biology or artefact?. Cardiovascular Research, 2015, 106, 6-6.	1.8	5
101	Engineering Cardiovascular Regeneration. Current Stem Cell Reports, 2015, 1, 67-78.	0.7	0
102	LQT1-phenotypes in hiPSC: Are we measuring the right thing?. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E1968.	3.3	15
103	Immunobiology of Fibrin-Based Engineered Heart Tissue. Stem Cells Translational Medicine, 2015, 4, 625-631.	1.6	10
104	The E3 ubiquitin ligase Asb2Î² is downregulated in a mouse model of hypertrophic cardiomyopathy and targets desmin for proteasomal degradation. Journal of Molecular and Cellular Cardiology, 2015, 87, 214-224.	0.9	35
105	Assessment of DNA synthesis in Islet-1+ cells in the adult murine heart. Biochemical and Biophysical Research Communications, 2015, 456, 294-297.	1.0	5
106	In-vitro perfusion of engineered heart tissue through endothelialized channels. Tissue Engineering - Part A, 2014, 20, 131025032956001.	1.6	52
107	Guanabenz Interferes with ER Stress and Exerts Protective Effects in Cardiac Myocytes. PLoS ONE, 2014, 9, e98893.	1.1	29
108	Effects of proarrhythmic drugs on relaxation time and beating pattern in rat engineered heart tissue. Basic Research in Cardiology, 2014, 109, 436.	2.5	30

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109	Automated analysis of contractile force and Ca²⁺transients in engineered heart tissue. American Journal of Physiology - Heart and Circulatory Physiology, 2014, 306, H1353-H1363.	1.5	69
110	Mybpc3 gene therapy for neonatal cardiomyopathy enables long-term disease prevention in mice. Nature Communications, 2014, 5, 5515.	5.8	131
111	Dichloroacetate prevents restenosis in preclinical animal models of vessel injury. Nature, 2014, 509, 641-644.	13.7	78
112	Cardiac arrhythmia induced by genetic silencing of â€˜funnyâ€™ (f) channels is rescued by GIRK4 inactivation. Nature Communications, 2014, 5, 4664.	5.8	70
113	Functional improvement and maturation of rat and human engineered heart tissue by chronic electrical stimulation. Journal of Molecular and Cellular Cardiology, 2014, 74, 151-161.	0.9	305
114	Generation of Strip-Format Fibrin-Based Engineered Heart Tissue (EHT). Methods in Molecular Biology, 2014, 1181, 121-129.	0.4	29
115	Repair of Mybpc3 mRNA by 5â€²-trans-splicing in a Mouse Model of Hypertrophic Cardiomyopathy. Molecular Therapy - Nucleic Acids, 2013, 2, e102.	2.3	61
116	Increased myofilament Ca2+ sensitivity and diastolic dysfunction as early consequences of Mybpc3 mutation in heterozygous knock-in mice. Journal of Molecular and Cellular Cardiology, 2012, 52, 1299-1307.	0.9	118
117	Increased afterload induces pathological cardiac hypertrophy: a new in vitro model. Basic Research in Cardiology, 2012, 107, 307.	2.5	131
118	Human Engineered Heart Tissue as a Versatile Tool in Basic Research and Preclinical Toxicology. PLoS ONE, 2011, 6, e26397.	1.1	305
119	Cardiovascular side effects of cancer therapies: a position statement from the Heart Failure Association of the European Society of Cardiology. European Journal of Heart Failure, 2011, 13, 1-10.	2.9	350
120	Development of a Drug Screening Platform Based on Engineered Heart Tissue. Circulation Research, 2010, 107, 35-44.	2.0	420
121	Engineered heart tissue grafts improve systolic and diastolic function in infarcted rat hearts. Nature Medicine, 2006, 12, 452-458.	15.2	928
122	What Is the Role of Î²-Adrenergic Signaling in Heart Failure?. Circulation Research, 2003, 93, 896-906.	2.0	687
123	Chronic stretch of engineered heart tissue induces hypertrophy and functional improvement. FASEB Journal, 2000, 14, 669-679.	0.2	371
124	Threeâ€dimensional reconstitution of embryonic cardiomyocytes in a collagen matrix: a new heart muscle model system. FASEB Journal, 1997, 11, 683-694.	0.2	584