Robert Zweigerdt

List of Publications by Year
in descending order

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72 papers	4,291 citations	147801 31 h-index	114465 63 g-index
78 all docs	78 docs citations	78 times ranked	4906 citing authors

#	Article	IF	Citations
1	Generation of Induced Pluripotent Stem Cells from Human Cord Blood. Cell Stem Cell, 2009, 5, 434-441.	11.1	450
2	Long noncoding RNA Chast promotes cardiac remodeling. Science Translational Medicine, 2016, 8, 326ra22.	12.4	321
3	Scalable expansion of human pluripotent stem cells in suspension culture. Nature Protocols, 2011, 6, 689-700.	12.0	240
4	Human heart-forming organoids recapitulate early heart and foregut development. Nature Biotechnology, 2021, 39, 737-746.	17.5	196
5	Controlling Expansion and Cardiomyogenic Differentiation of Human Pluripotent Stem Cells in Scalable Suspension Culture. Stem Cell Reports, 2014, 3, 1132-1146.	4.8	189
6	Murine and human pluripotent stem cell-derived cardiac bodies form contractile myocardial tissue in vitro. European Heart Journal, 2013, 34, 1134-1146.	2.2	180
7	Suspension Culture of Human Pluripotent Stem Cells in Controlled, Stirred Bioreactors. Tissue Engineering - Part C: Methods, 2012, 18, 772-784.	2.1	172
8	Differentiation and lineage selection of mouse embryonic stem cells in a stirred bench scale bioreactor with automated process control. Biotechnology and Bioengineering, 2005, 92, 920-933.	3.3	166
9	Global Expression Profile of Highly Enriched Cardiomyocytes Derived from Human Embryonic Stem Cells. Stem Cells, 2009, 27, 2163-2174.	3.2	162
10	Up-scaling single cell-inoculated suspension culture of human embryonic stem cells. Stem Cell Research, 2010, 4, 165-179.	0.7	150
11	Progress and challenges in large-scale expansion of human pluripotent stem cells. Process Biochemistry, 2017, 59, 244-254.	3.7	131
12	Cardiac differentiation of human pluripotent stem cells in scalable suspension culture. Nature Protocols, 2015, 10, 1345-1361.	12.0	125
13	Impact of Feeding Strategies on the Scalable Expansion of Human Pluripotent Stem Cells in Single-Use Stirred Tank Bioreactors. Stem Cells Translational Medicine, 2016, 5, 1289-1301.	3.3	110
14	Bulk cell density and Wnt/TGFbeta signalling regulate mesendodermal patterning of human pluripotent stem cells. Nature Communications, 2016, 7, 13602.	12.8	105
15	Bioreactor-based mass production of human iPSC-derived macrophages enables immunotherapies against bacterial airway infections. Nature Communications, 2018, 9, 5088.	12.8	105
16	Large-scale production of human pluripotent stem cell derived cardiomyocytes. Advanced Drug Delivery Reviews, 2016, 96, 18-30.	13.7	101
17	Laser bioprinting of human induced pluripotent stem cellsâ€"the effect of printing and biomaterials on cell survival, pluripotency, and differentiation. Biofabrication, 2018, 10, 035005.	7.1	93
18	Differentiation of Human Pluripotent Stem Cells into Functional Endothelial Cells in Scalable Suspension Culture. Stem Cell Reports, 2018, 10, 1657-1672.	4.8	75

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19	Cardiomyocyte Production in Mass Suspension Culture: Embryonic Stem Cells as a Source for Great Amounts of Functional Cardiomyocytes. Tissue Engineering - Part A, 2008, 14, 1591-1601.	3.1	72
20	Continuous WNT Control Enables Advanced hPSC Cardiac Processing and Prognostic Surface Marker Identification in Chemically Defined Suspension Culture. Stem Cell Reports, 2019, 13, 366-379.	4.8	61
21	Stiff matrix induces switch to pure Î²-cardiac myosin heavy chain expression in human ESC-derived cardiomyocytes. Basic Research in Cardiology, 2016, 111, 68.	5.9	59
22	Transplantation of purified iPSC-derived cardiomyocytes in myocardial infarction. PLoS ONE, 2017, 12, e0173222.	2.5	53
23	Cleavage of E-Cadherin and Î²-Catenin by Calpain Affects Wnt Signaling and Spheroid Formation in Suspension Cultures of Human Pluripotent Stem Cells. Molecular and Cellular Proteomics, 2014, 13, 990-1007.	3.8	52
24	Large Scale Production of Stem Cells and Their Derivatives. , 2009, 114, 201-235.		51
25	High Density Bioprocessing of Human Pluripotent Stem Cells by Metabolic Control and in Silico Modeling. Stem Cells Translational Medicine, 2021, 10, 1063-1080.	3.3	47
26	Promoter and lineage independent anti-silencing activity of the A2 ubiquitous chromatin opening element for optimized human pluripotent stem cell-based gene therapy. Biomaterials, 2014, 35, 1531-1542.	11.4	42
27	A Scalable Approach for the Generation of Human Pluripotent Stem Cell-Derived Hepatic Organoids with Sensitive Hepatotoxicity Features. Stem Cells and Development, 2017, 26, 1490-1504.	2.1	40
28	Differences in Contractile Function of Myofibrils within Human Embryonic Stem Cell-Derived Cardiomyocytes vs. Adult Ventricular Myofibrils Are Related to Distinct Sarcomeric Protein Isoforms. Frontiers in Physiology, 2017, 8, 1111.	2.8	36
29	Modulation of cardiomyocyte activity using pulsed laser irradiated gold nanoparticles. Biomedical Optics Express, 2017, 8, 177.	2.9	35
30	Expansion of functional personalized cells with specific transgene combinations. Nature Communications, 2018, 9, 994.	12.8	35
31	Directing Cardiomyogenic Differentiation of Human Pluripotent Stem Cells by Plasmid-Based Transient Overexpression of Cardiac Transcription Factors. Stem Cells and Development, 2013, 22, 1112-1125.	2.1	34
32	A Cardiac Cell Outgrowth Assay for Evaluating Drug Compounds Using a Cardiac Spheroid-on-a-Chip Device. Bioengineering, 2018, 5, 36.	3.5	33
33	Comparing human iPSC-cardiomyocytes versus HEK293T cells unveils disease-causing effects of Brugada mutation A735V of NaV1.5 sodium channels. Scientific Reports, 2019, 9, 11173.	3.3	33
34	Proteomic Analysis of Human Pluripotent Stem Cell Cardiomyogenesis Revealed Altered Expression of Metabolic Enzymes and PDLIM5 Isoforms. Journal of Proteome Research, 2017, 16, 1133-1149.	3.7	32
35	Telomerase therapy attenuates cardiotoxic effects of doxorubicin. Molecular Therapy, 2021, 29, 1395-1410.	8.2	31
36	Large-scale production of megakaryocytes in microcarrier-supported stirred suspension bioreactors. Scientific Reports, 2018, 8, 10146.	3.3	29

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37	Continuous human iPSC-macrophage mass production by suspension culture in stirred tank bioreactors. Nature Protocols, 2022, 17, 513-539.	12.0	28
38	Cytokine production using membrane adsorbers: Human basic fibroblast growth factor produced by Escherichia coli. Engineering in Life Sciences, 2012, 12, 29-38.	3.6	25
39	Generation of heart-forming organoids from human pluripotent stem cells. Nature Protocols, 2021, 16, 5652-5672.	12.0	24
40	Quantitative Secretomics Reveals Extrinsic Signals Involved in Human Pluripotent Stem Cell Cardiomyogenesis. Proteomics, 2018, 18, e1800102.	2.2	23
41	Data-Driven Model Development for Cardiomyocyte Production Experimental Failure Prediction. Computer Aided Chemical Engineering, 2020, , 1639-1644.	0.5	23
42	A practical synthesis of Rho-Kinase inhibitor Y-27632 and fluoro derivatives and their evaluation in human pluripotent stem cells. Organic and Biomolecular Chemistry, 2011, 9, 5503.	2.8	20
43	Scalable Cardiac Differentiation of Pluripotent Stem Cells Using Specific Growth Factors and Small Molecules. Advances in Biochemical Engineering/Biotechnology, 2017, 163, 39-69.	1.1	20
44	Chemically-Defined, Xeno-Free, Scalable Production of hPSC-Derived Definitive Endoderm Aggregates with Multi-Lineage Differentiation Potential. Cells, 2019, 8, 1571.	4.1	19
45	Hypoxic Conditions Promote the Angiogenic Potential of Human Induced Pluripotent Stem Cell-Derived Extracellular Vesicles. International Journal of Molecular Sciences, 2021, 22, 3890.	4.1	18
46	Paracrine mechanisms in early differentiation of human pluripotent stem cells: Insights from a mathematical model. Stem Cell Research, 2018, 32, 1-7.	0.7	16
47	Your Heart on a Chip: iPSC-Based Modeling of Barth-Syndrome-Associated Cardiomyopathy. Cell Stem Cell, 2014, 15, 9-11.	11.1	15
48	EBIO Does Not Induce Cardiomyogenesis in Human Pluripotent Stem Cells but Modulates Cardiac Subtype Enrichment by Lineage-Selective Survival. Stem Cell Reports, 2017, 8, 305-317.	4.8	15
49	Prediction of Human Induced Pluripotent Stem Cell Cardiac Differentiation Outcome by Multifactorial Process Modeling. Frontiers in Bioengineering and Biotechnology, 2020, 8, 851.	4.1	15
50	Anti-androgenic therapy with finasteride improves cardiac function, attenuates remodeling and reverts pathologic gene-expression after myocardial infarction in mice. Journal of Molecular and Cellular Cardiology, 2018, 122, 114-124.	1.9	14
51	A Microfluidic Bioreactor for Toxicity Testing of Stem Cell Derived 3D Cardiac Bodies. Methods in Molecular Biology, 2016, 1502, 159-168.	0.9	12
52	Femtosecond laser-based nanosurgery reveals the endogenous regeneration of single Z-discs including physiological consequences for cardiomyocytes. Scientific Reports, 2019, 9, 3625.	3.3	10
53	Multimodal Imaging for In Vivo Evaluation of Induced Pluripotent Stem Cells in a Murine Model of Heart Failure. Artificial Organs, 2017, 41, 192-199.	1.9	9
54	Sensitivity of human pluripotent stem cells to insulin precipitation induced by peristaltic pump-based medium circulation: considerations on process development. Scientific Reports, 2017, 7, 3950.	3.3	9

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55	Macroscopic Fluorescence Imaging: A Novel Technique to Monitor Retention and Distribution of Injected Microspheres in an Experimental Model of Ischemic Heart Failure. PLoS ONE, 2014, 9, e101775.	2.5	8
56	Production of Cardiomyocytes from Human Pluripotent Stem Cells by Bioreactor Technologies. Methods in Molecular Biology, 2019, 1994, 55-70.	0.9	8
57	Human Pluripotent Stem Cell Expansion in Stirred Tank Bioreactors. Methods in Molecular Biology, 2019, 1994, 79-91.	0.9	8
58	Myosin-18B Regulates Higher-Order Organization of the Cardiac Sarcomere through Thin Filament Cross-Linking and Thick Filament Dynamics. Cell Reports, 2020, 32, 108090.	6.4	8
59	Simplified 89Zr-Labeling Protocol of Oxine (8-Hydroxyquinoline) Enabling Prolonged Tracking of Liposome-Based Nanomedicines and Cells. Pharmaceutics, 2021, 13, 1097.	4.5	8
60	Human iPSC-derived macrophages for efficient Staphylococcus aureus clearance in a murine pulmonary infection model. Blood Advances, 2021, 5, 5190-5201.	5.2	8
61	Advanced Single-Cell Mapping Reveals that in hESC Cardiomyocytes Contraction Kinetics and Action Potential Are Independent of Myosin Isoform. Stem Cell Reports, 2020, 14, 788-802.	4.8	6
62	The Long Non-coding RNA Cyrano Is Dispensable for Pluripotency of Murine and Human Pluripotent Stem Cells. Stem Cell Reports, 2020, 15, 13-21.	4.8	6
63	Process control and in silico modeling strategies for enabling high density culture of human pluripotent stem cells in stirred tank bioreactors. STAR Protocols, 2021, 2, 100988.	1.2	6
64	Targeted biallelic integration of an inducible Caspase 9 suicide gene in iPSCs for safer therapies. Molecular Therapy - Methods and Clinical Development, 2022, 26, 84-94.	4.1	6
65	Dissecting mechanisms of chamber-specific cardiac differentiation and its perturbation following retinoic acid exposure. Development (Cambridge), 2022, 149, .	2.5	5
66	Modeling methodology for defining a priori the hydrodynamics of a dynamic suspension bioreactor. Application to human induced pluripotent stem cell culture. Journal of Biomechanics, 2019, 94, 99-106.	2.1	4
67	Solubilization and renaturation of biologically active human bone morphogenetic protein-4 from inclusion bodies. Biotechnology Reports (Amsterdam, Netherlands), 2018, 18, e00249.	4.4	3
68	Differential Expression of Cholinergic System Components in Human Induced Pluripotent Stem Cells, Bone Marrow-Derived Multipotent Stromal Cells, and Induced Pluripotent Stem Cell-Derived Multipotent Stromal Cells. Stem Cells and Development, 2018, 27, 166-183.	2.1	3
69	Evaluating the Effect of Drug Compounds on Cardiac Spheroids Using the Cardiac Cell Outgrowth Assay. Methods in Molecular Biology, 2019, 1994, 185-193.	0.9	3
70	How Localized Z-Disc Damage Affects Force Generation and Gene Expression in Cardiomyocytes. Bioengineering, 2021, 8, 213.	3.5	2
71	Heart Muscle Tissue Engineering. Learning Materials in Biosciences, 2020, , 99-121.	0.4	1
72	Chemotherapy-Free Targeted Anti-BCR-ABL+ Acute Lymphoblastic Leukemia Therapy May Benefit the Heart. Cancers, 2022, 14, 983.	3.7	0