Douglas A Melton

List of Publications by Year
in descending order

95 papers	26,360 citations	25014 57 h-index	43868 91 g-index
105 all docs	105 docs citations	105 times ranked	24811 citing authors

#	Article	IF	Citations
1	Core Transcriptional Regulatory Circuitry in Human Embryonic Stem Cells. Cell, 2005, 122, 947-956.	13.5	4,000
2	Adult pancreatic Î²-cells are formed by self-duplication rather than stem-cell differentiation. Nature, 2004, 429, 41-46.	13.7	2,079
3	In vivo reprogramming of adult pancreatic exocrine cells to Î²-cells. Nature, 2008, 455, 627-632.	13.7	1,892
4	Generation of Functional Human Pancreatic Î² Cells InÂVitro. Cell, 2014, 159, 428-439.	13.5	1,643
5	Direct evidence for the pancreatic lineage: NGN3+ cells are islet progenitors and are distinct from duct progenitors. Development (Cambridge), 2002, 129, 2447-2457.	1.2	1,336
6	A Single-Cell Transcriptomic Map of the Human and Mouse Pancreas Reveals Inter- and Intra-cell Population Structure. Cell Systems, 2016, 3, 346-360.e4.	2.9	1,098
7	Derivation of Embryonic Stem-Cell Lines from Human Blastocysts. New England Journal of Medicine, 2004, 350, 1353-1356.	13.9	892
8	Marked differences in differentiation propensity among human embryonic stem cell lines. Nature Biotechnology, 2008, 26, 313-315.	9.4	764
9	Notch signaling controls multiple steps of pancreatic differentiation. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 14920-14925.	3.3	708
10	Direct evidence for the pancreatic lineage: NGN3+ cells are islet progenitors and are distinct from duct progenitors. Development (Cambridge), 2002, 129, 2447-57.	1.2	703
11	Long-term glycemic control using polymer-encapsulated human stem cellâ€“derived beta cells in immune-competent mice. Nature Medicine, 2016, 22, 306-311.	15.2	564
12	Recovery from diabetes in mice by Î² cell regeneration. Journal of Clinical Investigation, 2007, 117, 2553-2561.	3.9	525
13	A Multipotent Progenitor Domain Guides Pancreatic Organogenesis. Developmental Cell, 2007, 13, 103-114.	3.1	484
14	Vertebrate Endoderm Development. Annual Review of Cell and Developmental Biology, 1999, 15, 393-410.	4.0	473
15	The Vascular Basement Membrane: A Niche for Insulin Gene Expression and Î² Cell Proliferation. Developmental Cell, 2006, 10, 397-405.	3.1	463
16	Endothelial signaling during development. Nature Medicine, 2003, 9, 661-668.	15.2	455
17	Small Molecules Efficiently Direct Endodermal Differentiation of Mouse and Human Embryonic Stem Cells. Cell Stem Cell, 2009, 4, 348-358.	5.2	404
18	Charting cellular identity during human in vitro Î²-cell differentiation. Nature, 2019, 569, 368-373.	13.7	358

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19	Functional beta-cell maturation is marked by an increased glucose threshold and by expression of urocortin 3. Nature Biotechnology, 2012, 30, 261-264.	9.4	322
20	Generation of stem cell-derived Î²-cells from patients with type 1 diabetes. Nature Communications, 2016, 7, 11463.	5.8	280
21	Direct regulation of intestinal fate by Notch. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 12443-12448.	3.3	266
22	Key events of pancreas formation are triggered in gut endoderm by ectopic expression of pancreatic regulatory genes. Genes and Development, 2001, 15, 444-454.	2.7	264
23	Differentiated human stem cells resemble fetal, not adult, Î² cells. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 3038-3043.	3.3	259
24	Pancreas regeneration. Nature, 2018, 557, 351-358.	13.7	256
25	Identifying gene expression programs of cell-type identity and cellular activity with single-cell RNA-Seq. ELife, 2019, 8, .	2.8	252
26	Signals from lateral plate mesoderm instruct endoderm toward a pancreatic fate. Developmental Biology, 2003, 259, 109-122.	0.9	222
27	Generation of hypoimmunogenic human pluripotent stem cells. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 10441-10446.	3.3	222
28	Î²-Catenin is essential for pancreatic acinar but not islet development. Development (Cambridge), 2005, 132, 4663-4674.	1.2	211
29	Genes, Signals, and Lineages in Pancreas Development. Annual Review of Cell and Developmental Biology, 2003, 19, 71-89.	4.0	207
30	How to make a functional Î²-cell. Development (Cambridge), 2013, 140, 2472-2483.	1.2	200
31	Activin receptor patterning of foregut organogenesis. Genes and Development, 2000, 14, 1866-1871.	2.7	192
32	Mixer, a Homeobox Gene Required for Endoderm Development. , 1998, 281, 91-96.		191
33	All Î² Cells Contribute Equally to Islet Growth and Maintenance. PLoS Biology, 2007, 5, e163.	2.6	191
34	Transcriptional dynamics of endodermal organ formation. Developmental Dynamics, 2009, 238, 29-42.	0.8	165
35	A simple tool to improve pluripotent stem cell differentiation. Nature Methods, 2013, 10, 553-556.	9.0	159
36	Regenerating the field of cardiovascular cell therapy. Nature Biotechnology, 2019, 37, 232-237.	9.4	140

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37	The Src Family of Tyrosine Kinases Is Important for Embryonic Stem Cell Self-renewal. Journal of Biological Chemistry, 2004, 279, 31590-31598.	1.6	128
38	Circadian Entrainment Triggers Maturation of Human InÂVitro Islets. Cell Stem Cell, 2020, 26, 108-122.e10.	5.2	127
39	Adenosine kinase inhibition selectively promotes rodent and porcine islet Î²-cell replication. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 3915-3920.	3.3	120
40	Self-renewal of embryonic-stem-cell-derived progenitors by organ-matched mesenchyme. Nature, 2012, 491, 765-768.	13.7	119
41	In vivo reprogramming of pancreatic acinar cells to three islet endocrine subtypes. ELife, 2014, 3, e01846.	2.8	119
42	Reprogrammed Stomach Tissue as a Renewable Source of Functional Î² Cells for Blood Glucose Regulation. Cell Stem Cell, 2016, 18, 410-421.	5.2	119
43	Reversal of Î² cell de-differentiation by a small molecule inhibitor of the TGFÎ² pathway. ELife, 2014, 3, e02809.	2.8	116
44	Prospective isolation and global gene expression analysis of definitive and visceral endoderm. Developmental Biology, 2007, 304, 541-555.	0.9	114
45	Notch gene expression during pancreatic organogenesis. Mechanisms of Development, 2000, 94, 199-203.	1.7	111
46	YAP inhibition enhances the differentiation of functional stem cell-derived insulin-producing Î² cells. Nature Communications, 2019, 10, 1464.	5.8	109
47	A Peninsular Structure Coordinates Asynchronous Differentiation with Morphogenesis to Generate Pancreatic Islets. Cell, 2019, 176, 790-804.e13.	13.5	103
48	Wnt Signaling Separates the Progenitor and Endocrine Compartments during Pancreas Development. Cell Reports, 2019, 27, 2281-2291.e5.	2.9	100
49	Wnt signaling specifies and patterns intestinal endoderm. Mechanisms of Development, 2011, 128, 387-400.	1.7	94
50	Alginate-microencapsulation of human stem cellâ€"derived Î² cells with CXCL12 prolongs their survival and function in immunocompetent mice without systemic immunosuppression. American Journal of Transplantation, 2019, 19, 1930-1940.	2.6	94
51	MARIS: Method for Analyzing RNA following Intracellular Sorting. PLoS ONE, 2014, 9, e89459.	1.1	93
52	A Nutrient-Sensing Transition at Birth Triggers Glucose-Responsive Insulin Secretion. Cell Metabolism, 2020, 31, 1004-1016.e5.	7.2	84
53	Synchronized stimulation and continuous insulin sensing in a microfluidic human Islet on a Chip designed for scalable manufacturing. Lab on A Chip, 2019, 19, 2993-3010.	3.1	74
54	How to make Î² cells?. Current Opinion in Cell Biology, 2009, 21, 727-732.	2.6	72

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55	Inhibition of mTOR Signaling Enhances Maturation of Cardiomyocytes Derived From Human-Induced Pluripotent Stem Cells via p53-Induced Quiescence. Circulation, 2020, 141, 285-300.	1.6	72
56	Glucose Response by Stem Cell-Derived Î² Cells InÂVitro Is Inhibited by a Bottleneck in Glycolysis. Cell Reports, 2020, 31, 107623.	2.9	72
57	Development of the pancreas inXenopus laevis. Developmental Dynamics, 2000, 218, 615-627.	0.8	62
58	Notch signaling reveals developmental plasticity of Pax4+ pancreatic endocrine progenitors and shunts them to a duct fate. Mechanisms of Development, 2007, 124, 97-107.	1.7	58
59	Modeling Type 1 Diabetes InÂVitro Using Human Pluripotent Stem Cells. Cell Reports, 2020, 32, 107894.	2.9	55
60	Genetic targeting of the endoderm with claudinâ€6^{CreER}. Developmental Dynamics, 2008, 237, 504-512.	0.8	54
61	A method for the generation of human stem cell-derived alpha cells. Nature Communications, 2020, 11, 2241.	5.8	54
62	Genome-scale in vivo CRISPR screen identifies RNLS as a target for beta cell protection in type 1 diabetes. Nature Metabolism, 2020, 2, 934-945.	5.1	53
63	Resolving Discrepant Findings on ANGPTL8 in Î²-Cell Proliferation: A Collaborative Approach to Resolving the Betatrophin Controversy. PLoS ONE, 2016, 11, e0159276.	1.1	51
64	Functional evaluation of ES cell-derived endodermal populations reveals differences between Nodal and Activin A-guided differentiation. Development (Cambridge), 2013, 140, 675-686.	1.2	48
65	Blastemal progenitors modulate immune signaling during early limb regeneration. Development (Cambridge), 2019, 146, .	1.2	43
66	A Stem Cell Approach to Cure Type 1 Diabetes. Cold Spring Harbor Perspectives in Biology, 2021, 13, a035741.	2.3	42
67	Cell maturation: Hallmarks, triggers, and manipulation. Cell, 2022, 185, 235-249.	13.5	42
68	Perspectives on the Activities of ANGPTL8/Betatrophin. Cell, 2014, 159, 467-468.	13.5	38
69	Establishment of human pluripotent stem cell-derived pancreatic Î²-like cells in the mouse pancreas. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 3924-3929.	3.3	32
70	Testing Pancreatic Islet Function at the Single Cell Level by Calcium Influx with Associated Marker Expression. PLoS ONE, 2015, 10, e0122044.	1.1	32
71	Midkine is a dual regulator of wound epidermis development and inflammation during the initiation of limb regeneration. ELife, 2020, 9, .	2.8	30
72	A therapeutic convectionâ€“enhanced macroencapsulation device for enhancing Î² cell viability and insulin secretion. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	29

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73	Angptl4 links Î±-cell proliferation following glucagon receptor inhibition with adipose tissue triglyceride metabolism. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 15498-15503.	3.3	28
74	A Src inhibitor regulates the cell cycle of human pluripotent stem cells and improves directed differentiation. Journal of Cell Biology, 2015, 210, 1257-1268.	2.3	27
75	Reversal of Type 1 Diabetes in Mice. New England Journal of Medicine, 2006, 355, 89-90.	13.9	24
76	A 3D culture platform enables development of zinc-binding prodrugs for targeted proliferation of Î² cells. Science Advances, 2020, 6, .	4.7	22
77	Applied Developmental Biology. Current Topics in Developmental Biology, 2016, 117, 65-73.	1.0	21
78	Brief Report: VGLL4 Is a Novel Regulator of Survival in Human Embryonic Stem Cells. Stem Cells, 2013, 31, 2833-2841.	1.4	20
79	Identification of a LIF-Responsive, Replication-Competent Subpopulation of Human Î² Cells. Cell Metabolism, 2020, 31, 327-338.e6.	7.2	17
80	Exogenous GDF11, but not GDF8, reduces body weight and improves glucose homeostasis in mice. Scientific Reports, 2020, 10, 4561.	1.6	15
81	Genetic manipulation of stress pathways can protect stem-cell-derived islets from apoptosis inÂvitro. Stem Cell Reports, 2022, 17, 766-774.	2.3	15
82	Live Cell Monitoring and Enrichment of Stem Cellâ€Derived Î² Cells Using Intracellular Zinc Content as a Population Marker. Current Protocols in Stem Cell Biology, 2019, 51, e99.	3.0	13
83	The Molecular Biography of the Cell. Cell, 2005, 120, 729-731.	13.5	10
84	Modeling Human Nutrition Using Human Embryonic Stem Cells. Cell, 2015, 161, 12-17.	13.5	9
85	Building Biomimetic Potency Tests for Islet Transplantation. Diabetes, 2021, 70, 347-363.	0.3	9
86	Generation of a heterozygous GAPDH-Luciferase human ESC line (HVRDe008-A-1) for in vivo monitoring of stem cells and their differentiated progeny. Stem Cell Research, 2021, 53, 102371.	0.3	6
87	Apolipoprotein E is a pancreatic extracellular factor that maintains mature Î²-cell gene expression. PLoS ONE, 2018, 13, e0204595.	1.1	5
88	Derivation of Human Embryonic Stem Cells. , 0, , 35-51.		4
89	Purification of Live Stemâ€Cellâ€Derived Islet Lineage Intermediates. Current Protocols in Stem Cell Biology, 2020, 53, e111.	3.0	3
90	A human ESC line for efficient CRISPR editing of pluripotent stem cells. Stem Cell Research, 2021, 57, 102591.	0.3	3

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91	Development of the pancreas in Xenopus laevis. , 0, .		2
92	Part A: Directed Differentiation of Human Embryonic Stem Cells into Early Endoderm Cells. , 0, , 179-186.		1
93	Organoid Maturation by Circadian Entrainment. StemJournal, 2020, 2, 7-13.	0.8	0
94	209.6: Long-term Functional Survival of Human Stem Cell-derived Islets Microencapsulated in Alginate With CXCL12 in Non-human Primates Without Immunosuppression. Transplantation, 2021, 105, S16-S16.	0.5	0
95	402.4: Genetic Approaches to Attain Hypo-immunogenic Human Stem Cell Derived Islets for Transplantation. Transplantation, 2021, 105, S28-S28.	0.5	0