Douglas A Melton

List of Publications by Citations

97 papers	21,381 citations	54 h-index	105 g-index
105 ext. papers	24,142 ext. citations	18.4 avg, IF	6.88 L-index

#	Paper	IF	Citations
97	Core transcriptional regulatory circuitry in human embryonic stem cells. *Cell*, **2005**, 122, 947-56	56.2	3494
96	Adult pancreatic beta-cells are formed by self-duplication rather than stem-cell differentiation. *Nature*, **2004**, 429, 41-6	50.4	1862
95	In vivo reprogramming of adult pancreatic exocrine cells to beta-cells. *Nature*, **2008**, 455, 627-32	50.4	1618
94	Generation of functional human pancreatic β cells in vitro. *Cell*, **2014**, 159, 428-39	56.2	1259
93	Direct evidence for the pancreatic lineage: NGN3+ cells are islet progenitors and are distinct from duct progenitors. *Development (Cambridge)*, **2002**, 129, 2447-2457	6.6	1103
92	Derivation of embryonic stem-cell lines from human blastocysts. *New England Journal of Medicine*, **2004**, 350, 1353-6	59.2	804
91	Direct evidence for the pancreatic lineage: NGN3+ cells are islet progenitors and are distinct from duct progenitors. *Development (Cambridge)*, **2002**, 129, 2447-57	6.6	679
90	Marked differences in differentiation propensity among human embryonic stem cell lines. *Nature Biotechnology*, **2008**, 26, 313-5	44.5	663
89	Notch signaling controls multiple steps of pancreatic differentiation. *Proceedings of the National Academy of Sciences of the United States of America*, **2003**, 100, 14920-5	11.5	623
88	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	10.6	614
87	Recovery from diabetes in mice by beta cell regeneration. *Journal of Clinical Investigation*, **2007**, 117, 2553-61	15.9	457
86	Long-term glycemic control using polymer-encapsulated human stem cell-derived beta cells in immune-competent mice. *Nature Medicine*, **2016**, 22, 306-11	50.5	430
85	Vertebrate endoderm development. *Annual Review of Cell and Developmental Biology*, **1999**, 15, 393-410	12.6	424
84	The vascular basement membrane: a niche for insulin gene expression and Beta cell proliferation. *Developmental Cell*, **2006**, 10, 397-405	10.2	415
83	Endothelial signaling during development. *Nature Medicine*, **2003**, 9, 661-8	50.5	415
82	A multipotent progenitor domain guides pancreatic organogenesis. *Developmental Cell*, **2007**, 13, 103-14	10.2	414
81	Betatrophin: a hormone that controls pancreatic β cell proliferation. *Cell*, **2013**, 153, 747-58	56.2	383

80	Small molecules efficiently direct endodermal differentiation of mouse and human embryonic stem cells. *Cell Stem Cell*, **2009**, 4, 348-58	18	356
79	Functional beta-cell maturation is marked by an increased glucose threshold and by expression of urocortin 3. *Nature Biotechnology*, **2012**, 30, 261-4	44.5	239
78	Direct regulation of intestinal fate by Notch. *Proceedings of the National Academy of Sciences of the United States of America*, **2005**, 102, 12443-8	11.5	228
77	Key events of pancreas formation are triggered in gut endoderm by ectopic expression of pancreatic regulatory genes. *Genes and Development*, **2001**, 15, 444-54	12.6	227
76	Differentiated human stem cells resemble fetal, not adult, □cells. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 3038-43	11.5	204
75	Signals from lateral plate mesoderm instruct endoderm toward a pancreatic fate. *Developmental Biology*, **2003**, 259, 109-22	3.1	204
74	Generation of stem cell-derived □cells from patients with type 1 diabetes. *Nature Communications*, **2016**, 7, 11463	17.4	200
73	Beta-catenin is essential for pancreatic acinar but not islet development. *Development (Cambridge)*, **2005**, 132, 4663-74	6.6	192
72	Charting cellular identity during human in vitro □cell differentiation. *Nature*, **2019**, 569, 368-373	50.4	189
71	Genes, signals, and lineages in pancreas development. *Annual Review of Cell and Developmental Biology*, **2003**, 19, 71-89	12.6	183
70	Mixer, a homeobox gene required for endoderm development. *Science*, **1998**, 281, 91-6	33.3	180
69	How to make a functional □cell. *Development (Cambridge)*, **2013**, 140, 2472-83	6.6	171
68	All beta cells contribute equally to islet growth and maintenance. *PLoS Biology*, **2007**, 5, e163	9.7	168
67	Activin receptor patterning of foregut organogenesis. *Genes and Development*, **2000**, 14, 1866-1871	12.6	160
66	Pancreas regeneration. *Nature*, **2018**, 557, 351-358	50.4	156
65	A simple tool to improve pluripotent stem cell differentiation. *Nature Methods*, **2013**, 10, 553-6	21.6	135
64	Transcriptional dynamics of endodermal organ formation. *Developmental Dynamics*, **2009**, 238, 29-42	2.9	130
63	The Src family of tyrosine kinases is important for embryonic stem cell self-renewal. *Journal of Biological Chemistry*, **2004**, 279, 31590-8	5.4	114

62	Adenosine kinase inhibition selectively promotes rodent and porcine islet β-cell replication. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 3915-20	11.5	111
61	Generation of hypoimmunogenic human pluripotent stem cells. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 10441-10446	11.5	110
60	Self-renewal of embryonic-stem-cell-derived progenitors by organ-matched mesenchyme. *Nature*, **2012**, 491, 765-8	50.4	107
59	Prospective isolation and global gene expression analysis of definitive and visceral endoderm. *Developmental Biology*, **2007**, 304, 541-55	3.1	107
58	Notch gene expression during pancreatic organogenesis. *Mechanisms of Development*, **2000**, 94, 199-203	1.7	105
57	In vivo reprogramming of pancreatic acinar cells to three islet endocrine subtypes. *ELife*, **2014**, 3, e01846	8.9	92
56	Regenerating the field of cardiovascular cell therapy. *Nature Biotechnology*, **2019**, 37, 232-237	44.5	90
55	Reversal of β-cell de-differentiation by a small molecule inhibitor of the TGFβ pathway. *ELife*, **2014**, 3, e02809	8.9	84
54	Reprogrammed Stomach Tissue as a Renewable Source of Functional β Cells for Blood Glucose Regulation. *Cell Stem Cell*, **2016**, 18, 410-21	18	81
53	Wnt signaling specifies and patterns intestinal endoderm. *Mechanisms of Development*, **2011**, 128, 387-400	1.7	76
52	YAP inhibition enhances the differentiation of functional stem cell-derived insulin-producing β cells. *Nature Communications*, **2019**, 10, 1464	17.4	75
51	MARIS: method for analyzing RNA following intracellular sorting. *PLoS ONE*, **2014**, 9, e89459	3.7	75
50	Identifying gene expression programs of cell-type identity and cellular activity with single-cell RNA-Seq. *ELife*, **2019**, 8,	8.9	73
49	How to make beta cells?. *Current Opinion in Cell Biology*, **2009**, 21, 727-32	9	63
48	Development of the pancreas in Xenopus laevis. *Developmental Dynamics*, **2000**, 218, 615-27	2.9	62
47	A Peninsular Structure Coordinates Asynchronous Differentiation with Morphogenesis to Generate Pancreatic Islets. *Cell*, **2019**, 176, 790-804.e13	56.2	59
46	Wnt Signaling Separates the Progenitor and Endocrine Compartments during Pancreas Development. *Cell Reports*, **2019**, 27, 2281-2291.e5	10.6	57
45	Circadian Entrainment Triggers Maturation of Human In Vitro Islets. *Cell Stem Cell*, **2020**, 26, 108-122.e10	18	57

44	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	55
43	Alginate-microencapsulation of human stem cell-derived β cells with CXCL12 prolongs their survival and function in immunocompetent mice without systemic immunosuppression. *American Journal of Transplantation*, **2019**, 19, 1930-1940	8.7	52
42	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	7.2	44
41	A Nutrient-Sensing Transition at Birth Triggers Glucose-Responsive Insulin Secretion. *Cell Metabolism*, **2020**, 31, 1004-1016.e5	24.6	43
40	Genetic targeting of the endoderm with claudin-6CreER. *Developmental Dynamics*, **2008**, 237, 504-12	2.9	43
39	Retraction Notice to: Betatrophin: A Hormone that Controls Pancreatic β Cell Proliferation. *Cell*, **2017**, 168, 326	56.2	40
38	Perspectives on the activities of ANGPTL8/betatrophin. *Cell*, **2014**, 159, 467-8	56.2	38
37	Functional evaluation of ES cell-derived endodermal populations reveals differences between Nodal and Activin A-guided differentiation. *Development (Cambridge)*, **2013**, 140, 675-86	6.6	36
36	Inhibition of mTOR Signaling Enhances Maturation of Cardiomyocytes Derived From Human-Induced Pluripotent Stem Cells via p53-Induced Quiescence. *Circulation*, **2020**, 141, 285-300	16.7	36
35	Resolving Discrepant Findings on ANGPTL8 in β Cell Proliferation: A Collaborative Approach to Resolving the Betatrophin Controversy. *PLoS ONE*, **2016**, 11, e0159276	3.7	34
34	Blastemal progenitors modulate immune signaling during early limb regeneration. *Development (Cambridge)*, **2019**, 146,	6.6	31
33	A method for the generation of human stem cell-derived alpha cells. *Nature Communications*, **2020**, 11, 2241	17.4	30
32	Glucose Response by Stem Cell-Derived β Cells In Vitro Is Inhibited by a Bottleneck in Glycolysis. *Cell Reports*, **2020**, 31, 107623	10.6	29
31	Testing pancreatic islet function at the single cell level by calcium influx with associated marker expression. *PLoS ONE*, **2015**, 10, e0122044	3.7	25
30	Angptl4 links β 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, 15498-503	11.5	24
29	A Src inhibitor regulates the cell cycle of human pluripotent stem cells and improves directed differentiation. *Journal of Cell Biology*, **2015**, 210, 1257-68	7.3	23
28	Establishment of human pluripotent stem cell-derived pancreatic β like cells in the mouse pancreas. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 3924-3929	11.5	21
27	Reversal of type 1 diabetes in mice. *New England Journal of Medicine*, **2006**, 355, 89-90	59.2	20

26	Modeling Type 1 Diabetes In Vitro Using Human Pluripotent Stem Cells. *Cell Reports*, **2020**, 32, 107894	10.6	20
25	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	14.6	20
24	is a dual regulator of wound epidermis development and inflammation during the initiation of limb regeneration. *ELife*, **2020**, 9,	8.9	16
23	Applied Developmental Biology: Making Human Pancreatic Beta Cells for Diabetics. *Current Topics in Developmental Biology*, **2016**, 117, 65-73	5.3	16
22	A Stem Cell Approach to Cure Type 1 Diabetes. *Cold Spring Harbor Perspectives in Biology*, **2021**, 13,	10.2	16
21	Brief report: VGLL4 is a novel regulator of survival in human embryonic stem cells. *Stem Cells*, **2013**, 31, 2833-41	5.8	11
20	Identification of a LIF-Responsive, Replication-Competent Subpopulation of Human Cells. *Cell Metabolism*, **2020**, 31, 327-338.e6	24.6	10
19	A 3D culture platform enables development of zinc-binding prodrugs for targeted proliferation of cells. *Science Advances*, **2020**, 6,	14.3	10
18	The molecular biography of the cell. *Cell*, **2005**, 120, 729-31	56.2	9
17	Live Cell Monitoring and Enrichment of Stem Cell-Derived Cells Using Intracellular Zinc Content as a Population Marker. *Current Protocols in Stem Cell Biology*, **2019**, 51, e99	2.8	8
16	Modeling human nutrition using human embryonic stem cells. *Cell*, **2015**, 161, 12-17	56.2	7
15	Exogenous GDF11, but not GDF8, reduces body weight and improves glucose homeostasis in mice. *Scientific Reports*, **2020**, 10, 4561	4.9	7
14	A therapeutic convection-enhanced macroencapsulation device for enhancing cell viability and insulin secretion. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	7
13	Building Biomimetic Potency Tests for Islet Transplantation. *Diabetes*, **2021**, 70, 347-363	0.9	5
12	Apolipoprotein E is a pancreatic extracellular factor that maintains mature cell gene expression. *PLoS ONE*, **2018**, 13, e0204595	3.7	4
11	Derivation of Human Embryonic Stem Cells35-51		2
10	Cell maturation: Hallmarks, triggers, and manipulation.. *Cell*, **2021**,	56.2	2
9	Development of the pancreas in Xenopus laevis		2

8	Purification of Live Stem-Cell-Derived Islet Lineage Intermediates. *Current Protocols in Stem Cell Biology*, **2020**, 53, e111	2.8	1
7	Part A: Directed Differentiation of Human Embryonic Stem Cells into Early Endoderm Cells179-186		1
6	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	1.6	1
5	A human ESC line for efficient CRISPR editing of pluripotent stem cells. *Stem Cell Research*, **2021**, 57, 102591	1.6	0
4	Organoid Maturation by Circadian Entrainment **2020**, 2, 7-13		
3	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	1.8	
2	402.4: Genetic Approaches to Attain Hypo-immunogenic Human Stem Cell Derived Islets for Transplantation.. *Transplantation*, **2021**, 105, S28	1.8	
1	Other Future Directions1045-1069		