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Pluripotent Stem Cells, Blood Precursors & Cardiomyocytes

Selected Scientific Publications

Article Title	Authors	Journal Reference
Pluripotent Stem Cells		
Efficient feeder-free episomal reprogramming with small molecules	Yu Y, Fongching Chau K, Vodyanik M, Jiang J, Jiang Y	PLoS ONE 6(3): e17557. doi:10.1371/journal.pone.0017557
Induced pluripotent stem cells from a spinal muscular atrophy patient	Ebert AD, Yu J, Rose FF, Mattis VB, Lorson CL, Thomson JA, Svendsen CN	Nature. 2009 Jan 15;457(7227):277-80.
Molecular profiling reveals similarities and differences between primitive subsets of hematopoietic cells generated in vitro from human embryonic stem cells and in vivo during embryogenesis	Salvagiotto G, Zhao Y, Vodyanik M, Ruotti V, Stewart R, Marra M, Thomson JA, Eaves C, Slukvin I	Exp Hematol. 2008;36(10):1377-89.
Induced pluripotent stem cell lines derived from human somatic cells	Yu J, Vodyanik MA, Smuga-Otto K, Antosiewicz-Bourget J, Frane JL, Tian S, Nie J, Jonsdottir GA, Ruotti V, Stewart R, Slukvin II, Thomson JA	Science. 2007;318(5858):1917-20.
Leukosialin (CD43) defines hematopoietic progenitors in human embryonic stem cell differentiation cultures	Vodyanik MA, Thomson JA, Slukvin II	Blood. 2006;108(6):2095-2105.
Directed differentiation of human embryonic stem cells into functional dendritic cells through the myeloid pathway	Slukvin II, Vodyanik MA, Thomson JA, Gumenyuk ME, Choi KD	J of Immunol. 2006;176:2924-32.
Basic FGF support of human embryonic stem cell self-renewal	Levenstein ME, Ludwig TE, Xu R, Llanas RA, VanDenHeuvel-Kramer K, Manning D, Thomson JA	Stem Cells. 2006 Mar;24(3):568-74.
Derivation of human embryonic stem cells in defined conditions	Ludwig TE, Levenstein ME, Jones J, Berggren W, Mitchen E, Frane J, Crandall L, Daigh CA, Conard K, Piekarczyk M, Llanas R, Thomson JA	Nat Biotechnol. 2006 Feb;24(2):185-7.
Human embryonic stem cells reprogram myeloid precursors following cell-cell fusion	Yu J, Vodyanik MA, He P, Slukvin II, Thomson JA	Stem Cells. 2006 Jan;24(1):168-76.
Feeder-independent culture of human embryonic stem cells	Ludwig TE, Bergendahl V, Levenstein ME, Yu J, Probasco MD, Thomson JA	Nat Methods. 2006 Aug; 3(8):637-46.
Basic FGF and suppression of BMP signaling sustain undifferentiated proliferation of human ES cells	Xu R, Peck RM, Li DS, Feng X, Ludwig TE, Thomson JA	Nat Methods. 2005 Mar; 2(3):185-90.
Recurrent gain of chromosomes 17q and 12 in cultured human embryonic stem cells	Draper JS, Smith K, Gokhale P, Moore HD, Maltby E, Johnson J, Meisner L, Zwaka TP, Thomson JA, Andrews PW	Nat Biotechnol. 2004 Jan;22(1):53-4.
Homologous recombination in human embryonic stem cells	Zwaka TP, Thomson JA	Nat Biotechnol. 2003;21:319-21.
Gene expression patterns in human embryonic stem cells and human pluripotent germ cell tumors	Sperger JM, Chen X, Draper JS, Antosiewicz JE, Chon CH, Jones SB, Brooks JD, Andrews PW, Brown PO, Thomson JA	PNAS USA. 2003 Nov;100(23):13350-5.
BMP4 initiates human embryonic stem cell differentiation to trophoblast.	Xu R, Chen X, Li DS, Li R, Addicks GC, Glennon C, Zwaka TP, Thomson JA	Nat Biotechnol. 2002;20:1261-4.
Hematopoietic colony forming cells derived from human embryonic stem cells	Kaufman DS, Hanson ET, Lewis RL, Auerbach R, Thomson JA	PNAS USA. 2001;98:10716-21.
In vitro differentiation and transplantation of human ES cell-derived neural precursors	Zhang S-C, Wernig M, Duncan ID, Brustle O, Thomson JA	Nat Biotechnol. 2001;19:1129-33.
Clonally derived human embryonic stem cell lines maintain pluripotency and proliferative potential for prolonged periods of in vitro culture	Amit M, Carpenter M, Inokuma M, Chiu C, Harris CP, Waknitz MA, Itskovitz-Eldor J, Thomson JA	Dev. Biol. 2000;227(2):271-8.
Embryonic stem cell lines derived from human blastocysts	Thomson JA, Itskovitz-Eldor J, Shapiro SS, Waknitz MA, Swiergiel JJ, Marshall VS, Jones JM.	Science. 1998;282:1145-7.
Pluripotent cell lines derived from common marmoset (Callithrix jacchus) blastocysts	Thomson JA, Kalishman J, Golos TJ, Durning M, Harris CP, Hearn JP	Biol of Repro. 1996;55:254-9.
Isolation of a primate embryonic stem cell line	Thomson JA, Becker R, Durning M, Golos TG, Harris C, Kalishman J, Hearn JP	PNAS USA. 1995;92:7844-8.

Article Title	Authors	Journal Reference
Blood Precursors from Human Embryonic Stem Cells		
A defined, feeder-free, serum-free system to generate in vitro hematopoietic progenitors and differentiated blood cells from hESCs and hiPSCs	Salvagiotto G, Burton S, Daigh CA, Rajesh D, Slukvin II, Seay NJ	PLoS ONE 6(3): e17829. doi:10.1371/journal.pone.0017829
Hematopoietic and endothelial differentiation of human induced pluripotent stem cells	Choi K-D, Yu J, Smuga-Otto K, Salvagiotto G, Rehrauer W, Vodyanik M, Thomson JA, Slukvin I	Stem Cells. 2009 Jan 8. [Epub ahead of print]
Molecular profiling reveals similarities and differences between primitive subsets of hematopoietic cells generated in vitro from human embryonic stem cells and in vivo during embryogenesis	Salvagiotto G, Zhao Y, Vodyanik M, Ruotti V, Stewart R, Marra M, Thomson JA, Eaves C, Slukvin I	Exp Hematol. 2008;36(10):1377-89.
Early chimerism threshold predicts sustained engraftment and NK-cell tolerance in prenatal allogeneic chimeras	Durkin ET, Jones KA, Rajesh D, Shaaban AF	Blood. 2008; 112(13):5245-53.
A microarray analysis of the emergence of embryonic definitive hematopoiesis	Chen D, Wang P, Lewis RL, Daigh CA, Ho C, Chen X, Thomson JA, Kendziorski C	Exp Hematol. 2007 Sep;35(9):1344-57.
HoxA10 activates transcription of the gene encoding mitogen activated protein kinase phosphatase 2 (Mkp2) in myeloid cells	Wang H, Lu Y, Huang W, Papoutsakis ET, Fuhrken PG, Eklund EA	J Biol Chem. 2007 Jun; 282:16164-76.
Comparative, genome-scale transcriptional analysis of CHRF-288-11 and primary human megakaryocytic cell cultures provides novel insights into lineage-specific differentiation	Fuhrken PG, Chen C, Miller WM, Papoutsakis ET	Exp Hemato. 2007 Mar;35:476-489.
Differential requirements for hematopoietic commitment between human and rhesus embryonic stem cells	Rajesh D, Chinnasamy N, Mitalipov SM, Wolf DP, Slukvin I, Thomson JA, Shaaban AF	Stem Cells. 2007 Feb;25(2):490-9.
Directed differentiation of human embryonic stem cells to dendritic cells	Vodyanik M. and Slukvin I	Methods Mol Biol. 2007; 407: 275-293.
Leukosialin (CD43) defines hematopoietic progenitors in human embryonic stem cell differentiation cultures	Vodyanik MA, Thomson JA, Slukvin II	Blood. 2006;108(6):2095-2105.
Directed differentiation of human embryonic stem cells into functional dendritic cells through the myeloid pathway	Slukvin II, Vodyanik MA, Thomson JA, Gumenyuk ME, Choi KD	J of Immunol. 2006;176:2924-32.
Human embryonic stem cell-derived hematopoietic cells are capable of engrafting primary as well as secondary fetal sheep recipients	Narayan AD, Chase JL, Lewis RL, Tian X, Kaufman DS, Thomson JA, Zanjani ED	Blood. 2006 Mar 1;107(5):2180-3.
Human embryonic stem cells reprogram myeloid precursors following cell-cell fusion	Yu J, Vodyanik MA, He P, Slukvin II, Thomson JA	Stem Cells. 2006 Jan;24(1):168-76.
Human embryonic stem cell-derived CD34+ cells: efficient production in the co-culture with OP9 stromal cells and analysis of lymphohematopoietic potential.	Vodyanik M.A., Bork J.A., Thomson J.A., Slukvin I.I	Blood 2005, 105(2):617-26.
Mouse and human embryonic stem cell models of hematopoiesis: past, present, and future	Chen D, Lewis RL, Kaufman DS	Biotechniques. 2003 Dec;35(6):1253-61.
Hematopoietic colony-forming cells derived from human embryonic stem cells	Kaufman DS, Hanson ET, Lewis RL, Auerbach R, Thomson JA	Proc Natl Acad Sci U S A. 2001 Sep 11;98(19):10716-21.

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Cardiomyocytes from Human Embryonic Stem Cells		
Functional cardiomyocytes derived from human induced pluripotent stem cells	Zhang J, Wilson GF, Soerens AG, Koonce CH, Yu J, Palecek SP, Thomson JA, Kamp TJ	Circ Res. 2009 Feb 12. [Epub ahead of print]
Human embryonic stem cell-derived cardiomyocytes: Drug discovery and safety pharmacology	He JQ , January CT, Thomson JA, Kamp TJ	Expert Opinion on Drug Discov. 2007;2(5):739-53.
Cardiomyocyte derivation from human embryonic stem cells	Singla DK, Jayaraman S, Zhang J, Kamp TJ	In: Masters J, Palsson B, Thomson J, editors. Human Embryonic Stem Cells (Human Cell Culture - Volume 6). The Netherlands:Springer, Dordrecht; 2007.
Embryonic stem cells and cardiogenesis	Kamp TJ, Lyons GE	In: Leri A, Anversa P, Frishman W, editors. Cardiac Regeneration and Stem Cell Therapy. Oxford, UK: Blackwell Publishing; 2007.
Human embryonic stem cell-derived cardiomyocytes can be maintained in defined medium without serum	Xu C, He JQ, Kamp TJ, Police S, Hao X, O'Sullivan C, Carpenter MK, Lebkowski J, Gold JD	Stem Cells and Dev. 2006;15(6):931-41.
Transplantation of embryonic stem cells into the infarcted mouse heart: formation of multiple cell types	Singla DK, Hacker TA, Ma L, Douglas PS, Sullivan R, Lyons GE, Kamp TJ	J Mol Cell Cardiol. 2006;40:195-200.
Clinical applications for human ES cells (Chapter 14)	Kamp TJ, Odorico J	In: Odorico J, Zhang SC, Pedersen R, editors. Human Embryonic Stem Cells, Abingdon, UK:Garland Science/BIOS Scientific Publishers; 2005. p. 257-80.
Embryonic stem cells: differentiation into cardiomyocytes and potential for heart repair and regeneration	Kumar D, Kamp TJ, Lewinter MM	Coron Artery Dis. 2005;16:111-6.
Human embryonic stem cells develop into multiple types of cardiac myocytes: action potential characterization	He JQ, Ma Y, Lee Y, Thomson JA, Kamp TJ	Circ Res. 2003 Jul 11;93(1):32-9.

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