

14. Aasen T, Raya A, Barrero MJ, Garreta E, Consiglio A et al (2008) Efficient and rapid generation of induced pluripotent stem cells from human keratinocytes. *Nat Biotechnol* 26:1276–1284
15. Sun N, Panetta NJ, Gupta DM, Wilson KD, Lee A et al (2009) Feeder-free derivation of induced pluripotent stem cells from adult human adipose stem cells. *Proc Natl Acad Sci USA* 106:15720–15725
16. Miyoshi K, Tsuji D, Kudoh K, Satomura K, Muto T et al (2010) Generation of human induced pluripotent stem cells from oral mucosa. *J Biosci Bioeng* 110:345–350
17. Tamaoki N, Takahashi K, Tanaka T, Ichisaka T, Aoki H et al (2010) Dental pulp cells for induced pluripotent stem cell banking. *J Dent Res* 89:773–778
18. Giorgetti A, Montserrat N, Aasen T, Gonzalez F, Rodriguez-Piza I et al (2009) Generation of induced pluripotent stem cells from human cord blood using OCT4 and SOX2. *Cell Stem Cell* 5:353–357
19. Loh YH, Agarwal S, Park IH, Urbach A, Huo H et al (2009) Generation of induced pluripotent stem cells from human blood. *Blood* 113:5476–5479
20. Seki T, Yuasa S, Oda M, Egashira T, Yae K et al (2010) Generation of induced pluripotent stem cells from human terminally differentiated circulating T cells. *Cell Stem Cell* 7:11–14
21. Nishino K, Toyoda M, Yamazaki-Inoue M, Fukawatase Y, Chikazawa E et al (2011) DNA methylation dynamics in human induced pluripotent stem cells over time. *PLoS Genet* 7:e1002085
22. Nishimura EK, Jordan SA, Oshima H, Yoshida H, Osawa M et al (2002) Dominant role of the niche in melanocyte stem-cell fate determination. *Nature* 416:854–860
23. Fernandes KJ, McKenzie IA, Mill P, Smith KM, Akhavan M et al (2004) A dermal niche for multipotent adult skin-derived precursor cells. *Nat Cell Biol* 6:1082–1093
24. Murga M, Yao L, Tosato G (2004) Derivation of endothelial cells from CD34⁺ umbilical cord blood. *Stem Cells* 22:385–395
25. Middleton J, Americh L, Gayon R, Julien D, Mansat M et al (2005) A comparative study of endothelial cell markers expressed in chronically inflamed human tissues: MECA-79, Duffy antigen receptor for chemokines, von Willebrand factor, CD31, CD34, CD105 and CD146. *J Pathol* 206:260–268
26. Gimble JM, Katz AJ, Bunnell BA (2007) Adipose-derived stem cells for regenerative medicine. *Circ Res* 100:1249–1260
27. Crisan M, Yap S, Casteilla L, Chen CW, Corselli M et al (2008) A perivascular origin for mesenchymal stem cells in multiple human organs. *Cell Stem Cell* 3:301–313
28. Nagoshi N, Shibata S, Kubota Y, Nakamura M, Nagai Y et al (2008) Ontogeny and multipotency of neural crest-derived stem cells in mouse bone marrow, dorsal root ganglia, and whisker pad. *Cell Stem Cell* 2:392–403
29. Biernaskie J, Paris M, Morozova O, Fagan BM, Marra M et al (2009) SKPs derive from hair follicle precursors and exhibit properties of adult dermal stem cells. *Cell Stem Cell* 5:610–623
30. Wakao S, Kitada M, Kuroda Y, Shigemoto T, Matsuse D et al (2011) Multilineage-differentiating stress-enduring (Muse) cells are a primary source of induced pluripotent stem cells in human fibroblasts. *Proc Natl Acad Sci USA* 108:9875–9880
31. Pittenger MF, Mackay AM, Beck SC, Jaiswal RK, Douglas R et al (1999) Multilineage potential of adult human mesenchymal stem cells. *Science* 284:143–147
32. Kuroda Y, Kitada M, Wakao S, Nishikawa K, Tanimura Y et al (2010) Unique multipotent cells in adult human mesenchymal cell populations. *Proc Natl Acad Sci USA* 107:8639–8643
33. Kuznetsov SA, Mankani MH, Leet AI, Ziran N, Gronthos S et al (2007) Circulating connective tissue precursors: extreme rarity in humans and chondrogenic potential in guinea pigs. *Stem Cells* 25:1830–1839
34. Kuznetsov SA, Riminucci M, Ziran N, Tsutsui TW, Corsi A et al (2004) The interplay of osteogenesis and hematopoiesis: expression of a constitutively active PTH/PTHrP receptor in osteogenic cells perturbs the establishment of hematopoiesis in bone and of skeletal stem cells in the bone marrow. *J Cell Biol* 167:1113–1122
35. Koerner J, Nesic D, Romero JD, Brehm W, Mainil-Varlet P et al (2006) Equine peripheral blood-derived progenitors in comparison to bone marrow-derived mesenchymal stem cells. *Stem Cells* 24:1613–1619
36. Chino T, Tamai K, Yamazaki T, Otsuru S, Kikuchi Y et al (2008) Bone marrow cell transfer into fetal circulation can ameliorate genetic skin diseases by providing fibroblasts to the skin and inducing immune tolerance. *Am J Pathol* 173:803–814
37. Tamai K, Yamazaki T, Chino T, Ishii M, Otsuru S et al (2011) PDGFR α -positive cells in bone marrow are mobilized by high mobility group box 1 (HMGB1) to regenerate injured epithelia. *Proc Natl Acad Sci USA* 108:6609–6614
38. Tai MH, Chang CC, Kiupel M, Webster JD, Olson LK et al (2005) Oct4 expression in adult human stem cells: evidence in support of the stem cell theory of carcinogenesis. *Carcinogenesis* 26:495–502
39. Trosko JE (2009) Review paper: cancer stem cells and cancer nonstem cells: from adult stem cells or from reprogramming of differentiated somatic cells. *Vet Pathol* 46:176–193
40. Aoi T, Yae K, Nakagawa M, Ichisaka T, Okita K et al (2008) Generation of pluripotent stem cells from adult mouse liver and stomach cells. *Science* 321:699–702
41. Hanna J, Markoulaki S, Schorderet P, Carey BW, Beard C et al (2008) Direct reprogramming of terminally differentiated mature B lymphocytes to pluripotency. *Cell* 133:250–264
42. Wesselschmidt RL (2011) The teratoma assay: an in vivo assessment of pluripotency. *Methods Mol Biol* 767:231–241
43. Chou YF, Yabuuchi A (2011) Murine embryonic stem cell derivation, in vitro pluripotency characterization, and in vivo teratoma formation. *Curr Protoc Toxicol* Chapter 2: Unit2 22
44. Chou YF, Chen HH, Eijpe M, Yabuuchi A, Chenoweth JG et al (2008) The growth factor environment defines distinct pluripotent ground states in novel blastocyst-derived stem cells. *Cell* 135:449–461
45. Kuroda Y, Kitada M, Wakao S, Dezawa M (2011) Bone marrow mesenchymal cells: how do they contribute to tissue repair and are they really stem cells? *Arch Immunol Ther Exp (Warsz)* 59:369–378
46. Atari M, Caballe-Serrano J, Gil-Recio C, Giner-Delgado C, Martinez-Sarra E et al (2012) The enhancement of osteogenesis through the use of dental pulp pluripotent stem cells in 3D. *Bone* 50:930–941
47. Sakamoto S, Kojima F, Igarashi M, Sawa R, Umekita M et al (2010) Decalpenic acid, a novel small molecule from *Penicillium verruculosum* CR37010, induces early osteoblastic markers in pluripotent mesenchymal cells. *J Antibiot (Tokyo)* 63:703–708
48. Imazato S, Horikawa D, Takeda K, Kiba W, Izutani N et al (2010) Proliferation and differentiation potential of pluripotent mesenchymal precursor C2C12 cells on resin-based restorative materials. *Dent Mater J* 29:341–346
49. Tsagias N, Kouzi-Koliakos K, Koliakos I, Kostidou E, Karagiannis V et al (2009) Addition of adipose-derived stem cells in cord blood cultures stimulates their pluripotent differentiation. *Transplant Proc* 41:4340–4344
50. Gage FH (2000) Mammalian neural stem cells. *Science* 287:1433–1438
51. Chang CC, Sun W, Cruz A, Saitoh M, Tai MH et al (2001) A human breast epithelial cell type with stem cell characteristics as target cells for carcinogenesis. *Radiat Res* 155:201–207
52. Weissman IL, Shizuru JA (2008) The origins of the identification and isolation of hematopoietic stem cells, and their capability to induce donor-specific transplantation tolerance and treat autoimmune diseases. *Blood* 112:3543–3553

53. Oswald J, Boxberger S, Jorgensen B, Feldmann S, Ehninger G et al (2004) Mesenchymal stem cells can be differentiated into endothelial cells in vitro. *Stem Cells* 22:377–384
54. Makino S, Fukuda K, Miyoshi S, Konishi F, Kodama H et al (1999) Cardiomyocytes can be generated from marrow stromal cells in vitro. *J Clin Invest* 103:697–705
55. Dezawa M, Ishikawa H, Itokazu Y, Yoshihara T, Hoshino M et al (2005) Bone marrow stromal cells generate muscle cells and repair muscle degeneration. *Science* 309:314–317
56. Oyagi S, Hirose M, Kojima M, Okuyama M, Kawase M et al (2006) Therapeutic effect of transplanting HGF-treated bone marrow mesenchymal cells into CCl₄-injured rats. *J Hepatol* 44:742–748
57. Dezawa M, Kanno H, Hoshino M, Cho H, Matsumoto N et al (2004) Specific induction of neuronal cells from bone marrow stromal cells and application for autologous transplantation. *J Clin Invest* 113:1701–1710
58. Dezawa M, Takahashi I, Esaki M, Takano M, Sawada H (2001) Sciatic nerve regeneration in rats induced by transplantation of in vitro differentiated bone-marrow stromal cells. *Eur J Neurosci* 14:1771–1776
59. Phinney DG, Prockop DJ (2007) Concise review: mesenchymal stem/multipotent stromal cells: the state of transdifferentiation and modes of tissue repair—current views. *Stem Cells* 25:2896–2902
60. Spees JL, Olson SD, Ylostalo J, Lynch PJ, Smith J et al (2003) Differentiation, cell fusion, and nuclear fusion during ex vivo repair of epithelium by human adult stem cells from bone marrow stroma. *Proc Natl Acad Sci USA* 100:2397–2402
61. Sakaida I, Terai S, Yamamoto N, Aoyama K, Ishikawa T et al (2004) Transplantation of bone marrow cells reduces CCl₄-induced liver fibrosis in mice. *Hepatology* 40:1304–1311
62. Orlic D, Kajstura J, Chimenti S, Jakoniuk I, Anderson SM et al (2001) Bone marrow cells regenerate infarcted myocardium. *Nature* 410:701–705
63. Song L, Tuan RS (2004) Transdifferentiation potential of human mesenchymal stem cells derived from bone marrow. *FASEB J* 18:980–982
64. Chen FG, Zhang WJ, Bi D, Liu W, Wei X et al (2007) Clonal analysis of nestin(–) vimentin(+) multipotent fibroblasts isolated from human dermis. *J Cell Sci* 120:2875–2883
65. Trosko JE, Chang CC, Upham BL, Tai MH (2004) Ignored hallmarks of carcinogenesis: stem cells and cell–cell communication. *Ann N Y Acad Sci* 1028:192–201
66. Trosko JE (2006) From adult stem cells to cancer stem cells: Oct-4 Gene, cell–cell communication, and hormones during tumor promotion. *Ann N Y Acad Sci* 1089:36–58
67. Byrne JA, Nguyen HN, Reijo Pera RA (2009) Enhanced generation of induced pluripotent stem cells from a subpopulation of human fibroblasts. *PLoS One* 4:e7118
68. Abollo-Jimenez F, Jimenez R, Cobaleda C (2010) Physiological cellular reprogramming and cancer. *Semin Cancer Biol* 20:98–106
69. Ou L, Wang X, Zou F (2010) Is iPS cell the panacea? *IUBMB Life* 62:170–175
70. Lowry WE, Richter L, Yachechko R, Pyle AD, Tchiew J et al (2008) Generation of human induced pluripotent stem cells from dermal fibroblasts. *Proc Natl Acad Sci U S A* 105:2883–2888
71. Chan EM, Ratanasirintrao S, Park IH, Manos PD, Loh YH et al (2009) Live cell imaging distinguishes bona fide human iPS cells from partially reprogrammed cells. *Nat Biotechnol* 27:1033–1037
72. Zhang X, Neganova I, Przyborski S, Yang C, Cooke M et al (2009) A role for NANOG in G1 to S transition in human embryonic stem cells through direct binding of CDK6 and CDC25A. *J Cell Biol* 184:67–82
73. Lee J, Go Y, Kang I, Han YM, Kim J (2010) Oct-4 controls cell-cycle progression of embryonic stem cells. *Biochem J* 426:171–181
74. Hochedlinger K, Yamada Y, Beard C, Jaenisch R (2005) Ectopic expression of Oct-4 blocks progenitor-cell differentiation and causes dysplasia in epithelial tissues. *Cell* 121:465–477
75. Huangfu D, Osafune K, Maehr R, Guo W, Eijkelenboom A et al (2008) Induction of pluripotent stem cells from primary human fibroblasts with only Oct4 and Sox2. *Nat Biotechnol* 26:1269–1275
76. Li W, Wei W, Zhu S, Zhu J, Shi Y et al (2009) Generation of rat and human induced pluripotent stem cells by combining genetic reprogramming and chemical inhibitors. *Cell Stem Cell* 4:16–19
77. Lin T, Ambasudhan R, Yuan X, Li W, Hilcove S et al (2009) A chemical platform for improved induction of human iPSCs. *Nat Methods* 6:805–808
78. Nishimura K, Sano M, Ohtaka M, Furuta B, Umemura Y et al (2011) Development of defective and persistent Sendai virus vector: a unique gene delivery/expression system ideal for cell reprogramming. *J Biol Chem* 286:4760–4771
79. Maekawa M, Yamaguchi K, Nakamura T, Shibukawa R, Kodanaka I et al (2011) Direct reprogramming of somatic cells is promoted by maternal transcription factor Glis1. *Nature* 474:225–229
80. Chen J, Liu J, Han Q, Qin D, Xu J et al (2010) Towards an optimized culture medium for the generation of mouse induced pluripotent stem cells. *J Biol Chem* 285:31066–31072
81. Subramanyam D, Blueloch R (2009) Watching reprogramming in real time. *Nat Biotechnol* 27:997–998
82. Masaki H, Ishikawa T, Takahashi S, Okumura M, Sakai N et al (2007) Heterogeneity of pluripotent marker gene expression in colonies generated in human iPS cell induction culture. *Stem Cell Res* 1:105–115
83. Laurent LC, Ulitsky I, Slavin I, Tran H, Schork A et al (2011) Dynamic changes in the copy number of pluripotency and cell proliferation genes in human ESCs and iPSCs during reprogramming and time in culture. *Cell Stem Cell* 8:106–118

