6. References

1) Aapola U, Maenpaa K, Kaipia A, Peterson P. Epigenetic modifications affect Dnmt3L expression. *Biochem J.* 2004 Jun 15; **380**(Pt 3):705-13.

2) Abeyta MJ, Clark AT, Rodriguez RT, Bodnar MS, Pera RA, Firpo MT. Unique gene expression signatures of independently-derived human embryonic stem cell lines. *Hum Mol Genet.* 2004 Mar 15; **13**(6):601-8. Epub 2004 Jan 28

3) Aguilar B, Rojas JC, Collados MT. Metabolism of homocysteine and its relationship with cardiovascular disease. *J Thromb Thrombolysis.* 2004 Oct; **18**(2):75-87. Review.

4) Allegrucci C, Denning CN, Burridge P, Steele W, Sinclair KD, Young LE. Human embryonic stem cells as a model for nutritional programming: an evaluation. *Reprod Toxicol.* 2005 Sep Oct; **20**(3):353-67. Review.

5) Allegrucci C, Denning C, Priddle H, Young L. Stem-cell consequences of embryo epigenetic defects. *Lancet.* 2004 Jul 10-16; **364**(9429):206-8. Review.

6) Allegrucci C, Young LE. Differences between human embryonic stem cell lines. *Hum Reprod Update.* 2007 Mar-Apr; **13**(2):103-20. Epub 2006 Aug 26. Review.

7) Allegrucci C, Wu YZ, Thurston A, Denning CN, Priddle H, Mummery CL, Ward-van Oostwaard D, Andrews PW, Stojkovic M, Smith N, Parkin T, Jones ME, Warren G, Yu L, Brena RM, Plass C, Young LE. Restriction landmark genome scanning identifies culture-induced DNA methylation instability in the human embryonic stem cell epigenome. *Hum Mol Genet.* 2007 May 15; **16**(10):1253-68. Epub 2007 Apr 4.

8) Amit M, Carpenter MK, Inokuma MS, Chiu CP, Harris CP, Waknitz MA, Itskovitz-Eldor J, Thomson JA. Clonally derived human embryonic stem cell lines maintain pluripotency and proliferative potential for prolonged periods of culture. *Dev Biol.* 2000 Nov 15; **227**(2):271-8.

9) Amit M, Shariki C, Margulets V, Itskovitz-Eldor J. Feeder layer- and serum-free culture of human embryonic stem cells. *Biol Reprod.* 2004 Mar; **70**(3):837-45. Epub 2003 Nov 19.

10) Anneren C, Cowan CA, Melton DA. The Src family of tyrosine kinases is important for embryonic stem cell self-renewal. *J Biol Chem.* 2004 Jul 23; **279**(30):31590-8. Epub 2004 May 17.

11) Ariel I, de Groot N, Hochberg A. Imprinted H19 gene expression in embryogenesis and human cancer: the oncofetal connection. *Am J Med Genet.* 2000 Mar 6; **91**(1):46-50.

12) Arnaud P, Monk D, Hitchins M, Gordon E, Dean W, Beechey CV, Peters J, Craigen W, Preece M, Stanier P, Moore GE, Kelsey G. Conserved methylation imprints in the human and mouse GRB10 genes with divergent allelic expression suggests differential reading of the same mark. *Hum Mol Genet.* 2003 May 1; **12**(9):1005-19.

13) Assady S, Maor G, Amit M, Itskovitz-Eldor J, Skorecki KL, Tzukerman M. Insulin production by human embryonic stem cells. *Diabetes.* 2001 Aug; **50**(8):1691-7.

14) Avery S, Inniss K, Moore H. The regulation of self-renewal in human embryonic stem cells. *Stem Cells Dev.* 2006 Oct; **15**(5):729-40. Review.

15) Barker DJ. Maternal and fetal origins of coronary heart disease. *J R Coll Physicians Lond.* 1994 Nov-Dec; **28**(6):544-51. Review.

16) Barker DJ, Osmond C. Infant mortality, childhood nutrition, and ischaemic heart disease in England and Wales. *Lancet.* 1986 May 10; **1**(8489):1077-81.

17) Barlow DP, Stoger R, Herrmann BG, Saito K, Schweifer N. The mouse insulin-like growth factor type-2 receptor is imprinted and closely linked to the Tme locus. *Nature.* 1991 Jan 3; **349**(6304):84-7.

18) Beattie GM, Lopez AD, Bucay N, Hinton A, Firpo MT, King CC, Hayek A. Activin A maintains pluripotency of human embryonic stem cells in the absence of feeder layers. *Stem Cells.* 2005 Apr; **23**(4):489-95.

19) Bell AC, Felsenfeld G. Methylation of a CTCF-dependent boundary controls imprinted expression of the Igf2 gene. *Nature.* 2000 May 25; **405**(6785):482-5.

20) Berry RJ, Li Z, Erickson JD, Li S, Moore CA, Wang H, Mulinare J, Zhao P, Wong LY, Gindler J, Hong SX, Correa A. Prevention of neural-tube defects with folic acid in China. China-U.S. Collaborative Project for Neural Tube Defect Prevention. *N Engl J Med.* 1999 Nov 11; **341**(20):1485-90. Erratum in: *N Engl J Med.* 1999 Dec 9; **341**(24):1864.

21) Bertram C, Trowern AR, Copin N, Jackson AA, Whorwood CB. The maternal diet during pregnancy programs altered expression of the glucocorticoid receptor and type 2 11beta-hydroxysteroid dehydrogenase: potential molecular mechanisms underlying the programming of hypertension in utero. *Endocrinology.* 2001 Jul; **142**(7):2841-53.

22) Bestor TH. Activation of mammalian DNA methyltransferase by cleavage of a Zn binding regulatory domain. *EMBO J.* 1992 Jul; **11**(7):2611-7.

23) Blount BC, Mack MM, Wehr CM, MacGregor JT, Hiatt RA, Wang G, Wickramasinghe SN, Everson RB, Ames BN. Folate deficiency causes uracil misincorporation into human DNA and chromosome breakage: implications for cancer and neuronal damage. *Proc Natl Acad Sci U S A.* 1997 Apr 1; **94**(7):3290-5.

24) Brandenberger R, Wei H, Zhang S, Lei S, Murage J, Fisk GJ, Li Y, Xu C, Fang R, Guegler K, Rao MS, Mandalam R, Lebkowski J, Stanton LW. Transcriptome characterization elucidates signaling networks that control human ES cell growth and differentiation. *Nat Biotechnol.* 2004 Jun; **22**(6):707-16. Epub 2004 May 16.

25) Bressler J, Tsai TF, Wu MY, Tsai SF, Ramirez MA, Armstrong D, Beaudet AL. The SNRPN promoter is not required for genomic imprinting of the Prader-Willi/Angelman domain in mice. *Nat Genet.* 2001 Jul; **28**(3):232-40.

26) Brimble SN, Zeng X, Weiler DA, Luo Y, Liu Y, Lyons IG, Freed WJ, Robins AJ, Rao MS, Schulz TC. Karyotypic stability, genotyping, differentiation, feeder-free maintenance, and gene expression sampling in three human embryonic stem cell lines derived prior to August 9, 2001. *Stem Cells Dev.* 2004 Dec; **13**(6):585-97.

27) Brolen GK, Heins N, Edsbagge J, Semb H. Signals from the embryonic mouse pancreas induce differentiation of human embryonic stem cells into insulin-producing beta-cell-like cells. *Diabetes.* 2005 Oct;54(10):2867-74.

28) Burridge PW, Anderson D, Priddle H, Barbadillo Munoz MD, Chamberlain S, Allegrucci C, Young LE, Denning C. Improved human embryonic stem cell embryoid body homogeneity and cardiomyocyte differentiation from a novel V-96 plate aggregation system highlights interline variability. *Stem Cells.* 2007 Apr; **25**(4):929-38. Epub 2006 Dec 21.

29) Buryanov YI, Schevchuk TV. DNA methyltransferases and structural-functional specificity of eukaryotic DNA modification. *Biochemistry (Mosc).* 2005 Jul; **70**(7):730-42. Review.

30) Bylund M, Andersson E, Novitch BG, Muhr J. Vertebrate neurogenesis is counteracted by Sox1-3 activity. *Nat Neurosci.* 2003 Nov; **6**(11):1162-8. Epub 2003 Sep 28.

31) Cai J, Chen J, Liu Y, Miura T, Luo Y, Loring JF, Freed WJ, Rao MS, Zeng X. Assessing self-renewal and differentiation in human embryonic stem cell lines. *Stem Cells.* 2006 Mar; **24**(3):516-30. Epub 2005 Nov 17.

32) Caisander G, Park H, Frej K, Lindqvist J, Bergh C, Lundin K, Hanson C. Chromosomal integrity maintained in five human embryonic stem cell lines after prolonged in vitro culture. *Chromosome Res.* 2006; **14**(2):131-7. Epub 2006 Mar 17.

33) Chadwick K, Wang L, Li L, Menendez P, Murdoch B, Rouleau A, Bhatia M. Cytokines and BMP-4 promote hematopoietic differentiation of human embryonic stem cells. *Blood.* 2003 Aug 1; **102**(3):906-15. Epub 2003 Apr 17.

34) Chambers I, Colby D, Robertson M, Nichols J, Lee S, Tweedie S, Smith A. Functional expression cloning of Nanog, a pluripotency sustaining factor in embryonic stem cells. *Cell.* 2003 May 30; **113**(5):643-55.

35) Charalambous M, Smith FM, Bennett WR, Crew TE, Mackenzie F, Ward A. Disruption of the imprinted Grb10 gene leads to disproportionate overgrowth by an

Igf2-independent mechanism. *Proc Natl Acad Sci U S A*. 2003 Jul 8; **100**(14):8292-7. Epub 2003 Jun 26.

36) Chen CL, Ip SM, Cheng D, Wong LC, Ngan HY. Loss of imprinting of the IGF-II and H19 genes in epithelial ovarian cancer. *Clin Cancer Res.* 2000 Feb; **6**(2):474-9.

37) Chen T, Ueda Y, Dodge JE, Wang Z, Li E. Establishment and maintenance of genomic methylation patterns in mouse embryonic stem cells by Dnmt3a and Dnmt3b. *Mol Cell Biol.* 2003 Aug; **23**(16):5594-605.

38) Clark AT, Rodriguez RT, Bodnar MS, Abeyta MJ, Cedars MI, Turek PJ, Firpo MT, Reijo Pera RA. Human STELLAR, NANOG, and GDF3 genes are expressed in pluripotent cells and map to chromosome 12p13, a hotspot for teratocarcinoma. *Stem Cells.* 2004; **22**(2):169-79.

39) Coraux C, Nawrocki-Raby B, Hinnrasky J, Kileztky C, Gaillard D, Dani C, Puchelle E. Embryonic stem cells generate airway epithelial tissue. *Am J Respir Cell Mol Biol.* 2005 Feb; **32**(2):87-92. Epub 2004 Dec 2.

40) Couvert P, Poirier K, Carrie A, Chalas C, Jouannet P, Beldjord C, Bienvenu T, Chelly J, Kerjean A. DHPLC-based method for DNA methylation analysis of differential methylated regions from imprinted genes. *Biotechniques.* 2003 Feb; **34**(2):356-62.

41) Cowan CA, Klimanskaya I, McMahon J, Atienza J, Witmyer J, Zucker JP, Wang S, Morton CC, McMahon AP, Powers D, Melton DA. Derivation of embryonic stem-cell lines from human blastocysts. *N Engl J Med.* 2004 Mar 25; **350**(13):1353-6. Epub 2004 Mar 3.

42) Cui H, Horon IL, Ohlsson R, Hamilton SR, Feinberg AP. Loss of imprinting in normal tissue of colorectal cancer patients with microsatellite instability. *Nat Med.* 1998 Nov; **4**(11):1276-80.

43) Cui H, Niemitz EL, Ravenel JD, Onyango P, Brandenburg SA, Lobanenkov VV, Feinberg AP. Loss of imprinting of insulin-like growth factor-II in Wilms' tumor commonly involves altered methylation but not mutations of CTCF or its binding site. *Cancer Res.* 2001 Jul 1; **61**(13):4947-50.

44) Darling S. Mice as models of human developmental disorders: natural and artificial mutants. *Curr Opin Genet Dev.* 1996 Jun; **6**(3):289-94. Review.

45) Davies HD, Leusink GL, McConnell A, Deyell M, Cassidy SB, Fick GH, Coppes MJ. Myeloid leukemia in Prader-Willi syndrome. *J Pediatr.* 2003 Feb; **142**(2):174-8.

46) Davis TL, Yang GJ, McCarrey JR, Bartolomei MS. The H19 methylation imprint is erased and re-established differentially on the parental alleles during male germ cell development. *Hum Mol Genet.* 2000 Nov 22; **9**(19):2885-94.

47) De Bree A, van Dusseldorp M, Brouwer IA, van het Hof KH, Steegers-Theunissen RP. Folate intake in Europe: recommended, actual and desired intake. *Eur J Clin Nutr.* 1997 Oct; **51**(10):643-60. Review.

48) De Souza AT, Hankins GR, Washington MK, Orton TC, Jirtle RL. M6P/IGF2R gene is mutated in human hepatocellular carcinomas with loss of heterozygosity. *Nat Genet.* 1995 Dec; **11**(4):447-9.

49) Dean W, Bowden L, Aitchison A, Klose J, Moore T, Meneses JJ, Reik W, Feil R. Altered imprinted gene methylation and expression in completely ES cell-derived mouse fetuses: association with aberrant phenotypes. *Development.* 1998 Jun; **125**(12):2273-82.

50) Denham M, Cole TJ, Mollard R. Embryonic stem cells form glandular structures and express surfactant protein C following culture with dissociated fetal respiratory tissue. *Am J Physiol Lung Cell Mol Physiol.* 2006 Jun; **290**(6):L1210-5. Epub 2006 Jan 6.

51) Dittrich B, Buiting K, Korn B, Rickard S, Buxton J, Saitoh S, Nicholls RD, Poustka A, Winterpacht A, Zabel B, Horsthemke B. Imprint switching on human chromosome 15 may involve alternative transcripts of the SNRPN gene. *Nat Genet.* 1996 Oct; **14**(2):163-70.

52) Doherty AS, Mann MR, Tremblay KD, Bartolomei MS, Schultz RM. Differential effects of culture on imprinted H19 expression in the preimplantation mouse embryo. *Biol Reprod.* 2000 Jun; **62**(6):1526-35.

53) Dull TJ, Gray A, Hayflick JS, Ullrich A. Insulin-like growth factor II precursor gene organization in relation to insulin gene family. *Nature.* 1984 Aug 30-Sep 5; **310**(5980):777-81.

54) Dvash T, Benvenisty N. Human embryonic stem cells as a model for early human development. *Best Pract Res Clin Obstet Gynaecol.* 2004 Dec; **18**(6):929-40. Review.

55) Ehrlich M, Buchanan KL, Tsien F, Jiang G, Sun B, Uicker W, Weemaes CM, Smeets D, Sperling K, Belohradsky BH, Tommerup N, Misek DE, Rouillard JM, Kuick R, Hanash SM. DNA methyltransferase 3B mutations linked to the ICF syndrome cause dysregulation of lymphogenesis genes. *Hum Mol Genet.* 2001 Dec 1; **10**(25):2917-31.

56) Eiholzer U, Blum WF, Molinari L. Body fat determined by skinfold measurements is elevated despite underweight in infants with Prader-Labhart-Willi syndrome. *J Pediatr.* 1999 Feb; **134**(2):222-5.

57) Feinberg AP, Oshimura M, Barrett JC. Epigenetic mechanisms in human disease. *Cancer Res.* 2002 Nov 15; **62**(22):6784-7.

58) Gao ZH, Suppola S, Liu J, Heikkila P, Janne J, Voutilainen R. Association of H19 promoter methylation with the expression of H19 and IGF-II genes in adrenocortical tumors. *J Clin Endocrinol Metab.* 2002 Mar; **87**(3):1170-6.

59) Gaudet F, Hodgson JG, Eden A, Jackson-Grusby L, Dausman J, Gray JW, Leonhardt H, Jaenisch R. Induction of tumors in mice by genomic hypomethylation. *Science.* 2003 Apr 18; **300**(5618):489-92.

60) Gaunt SJ, Blum M, De Robertis EM. Expression of the mouse goosecoid gene during mid-embryogenesis may mark mesenchymal cell lineages in the developing head, limbs and body wall. *Development.* 1993 Feb; **117**(2):769-78.

61) Geuns E, De Rycke M, Van Steirteghem A, Liebaers I. Methylation imprints of the imprint control region of the SNRPN-gene in human gametes and preimplantation embryos. *Hum Mol Genet.* 2003 Nov 15; **12**(22):2873-9. Epub 2003 Sep 18.

62) Gilbert S.F., Developmental Biology, sixth edition, 2003, Sinauer.

63) Gillman MW. Developmental origins of health and disease. *N Engl J Med.* 2005 Oct 27; **353**(17):1848-50.

64) Glenn CC, Porter KA, Jong MT, Nicholls RD, Driscoll DJ. Functional imprinting and epigenetic modification of the human SNRPN gene. *Hum Mol Genet.* 1993 Dec; **2**(12):2001-5.

65) Gluckman PD, Hanson MA. Living with the past: evolution, development, and patterns of disease. *Science.* 2004 Sep 17; **305**(5691):1733-6. Review.

66) Green H, Easley K, Iuchi S. Marker succession during the development of keratinocytes from cultured human embryonic stem cells. *Proc Natl Acad Sci U S A.* 2003 Dec 23; **100**(26):15625-30. Epub 2003 Dec 8.

67) Gregory CA, Perry AS, Reyes E, Conley A, Gunn WG, Prockop DJ. Dkk-1-derived synthetic peptides and lithium chloride for the control and recovery of adult stem cells from bone marrow. *J Biol Chem.* 2005 Jan 21; **280**(3):2309-23. Epub 2004 Oct 25.

68) Guo G, Wang W, Bradley A. Mismatch repair genes identified using genetic screens in Blm-deficient embryonic stem cells. *Nature.* 2004 Jun 24; **429**(6994):891-5.

69) Haigh C, Graham D. Genomic imprinting and the strange case of the insulin-like growth factor II receptor. *Cell.* 1991 Mar 22; **64**(6):1045-6. Review.

70) Hansen RS. X inactivation-specific methylation of LINE-1 elements by DNMT3B: implications for the Lyon repeat hypothesis. *Hum Mol Genet.* 2003 Oct 1; **12**(19):2559-67. Epub 2003 Aug 12.

71) Harding JE. Nutrition and growth before birth. *Asia Pac J Clin Nutr.* 2003; **12** Suppl:S28.

72) Harding JE. The nutritional basis of the fetal origins of adult disease. *Int J Epidemiol.* 2001 Feb; **30**(1):15-23. Review.

73) Hark AT, Schoenherr CJ, Katz DJ, Ingram RS, Levorse JM, Tilghman SM. CTCF mediates methylation-sensitive enhancer-blocking activity at the H19/Igf2 locus. *Nature.* 2000 May 25; **405**(6785):486-9.

74) Hart AH, Hartley L, Sourris K, Stadler ES, Li R, Stanley EG, Tam PP, Elefanty AG, Robb L. Mixl1 is required for axial mesendoderm morphogenesis and patterning in the murine embryo. *Development.* 2002 Aug; **129**(15):3597-608.

75) Hata K, Okano M, Lei H, Li E. Dnmt3L cooperates with the Dnmt3 family of de novo DNA methyltransferases to establish maternal imprints in mice. *Development.* 2002 Apr; **129**(8):1983-93.

76) Hattori N, Abe T, Hattori N, Suzuki M, Matsuyama T, Yoshida S, Li E, Shiota K. Preference of DNA methyltransferases for CpG islands in mouse embryonic stem cells. *Genome Res.* 2004 Sep; **14**(9):1733-40. Epub 2004 Aug 12.

77) Hattori N, Imao Y, Nishino K, Hattori N, Ohgane J, Yagi S, Tanaka S, Shiota K. Epigenetic regulation of Nanog gene in embryonic stem and trophoblast stem cells. *Genes Cells.* 2007 Mar; **12**(3):387-96.

78) Hattori N, Nishino K, Ko YG, Hattori N, Ohgane J, Tanaka S, Shiota K. Epigenetic control of mouse Oct-4 gene expression in embryonic stem cells and trophoblast stem cells. *J Biol Chem.* 2004 Apr 23; **279**(17):17063-9. Epub 2004 Feb 4.

79) Hay DC, Sutherland L, Clark J, Burdon T. Oct-4 knockdown induces similar patterns of endoderm and trophoblast differentiation markers in human and mouse embryonic stem cells. *Stem Cells.* 2004; **22**(2):225-35.

80) Henikoff S, Matzke MA. Exploring and explaining epigenetic effects. *Trends Genet.* 1997 Aug; **13**(8):293-5.

81) Hikichi T, Kohda T, Kaneko-Ishino T, Ishino F. Imprinting regulation of the murine Meg1/Grb10 and human GRB10 genes; roles of brain-specific promoters and mouse-specific CTCF-binding sites. *Nucleic Acids Res.* 2003 Mar 1; **31**(5):1398-406.

82) Hitchins MP, Moore GE. Genomic imprinting in fetal growth and development. *Expert Rev Mol Med.* 2002 May 9; **2002**:1-19. No abstract available.

83) Hoffman LM, Carpenter MK. Characterization and culture of human embryonic stem cells. *Nat. Biotechnol.* 2005 Jun; **23**(6):699-708. Review.

84) Hovatta O, Mikkola M, Gertow K, Stromberg AM, Inzunza J, Hreinsson J, Rozell B, Blennow E, Andang M, Ahrlund-Richter L. A culture system using human foreskin

fibroblasts as feeder cells allows production of human embryonic stem cells. *Hum Reprod.* 2003 Jul; **18**(7):1404-9.

85) Howell CY, Bestor TH, Ding F, Latham KE, Mertineit C, Trasler JM, Chaillet JR. Genomic imprinting disrupted by a maternal effect mutation in the Dnmt1 gene. *Cell.* 2001 Mar 23; **104**(6):829-38.

86) Hoybye C, Hilding A, Jacobsson H, Thoren M. Metabolic profile and body composition in adults with Prader-Willi syndrome and severe obesity. *J Clin Endocrinol Metab.* 2002 Aug; **87**(8):3590-7.

87) Hyslop L, Stojkovic M, Armstrong L, Walter T, Stojkovic P, Przyborski S, Herbert M, Murdoch A, Strachan T, Lako M. Downregulation of NANOG induces differentiation of human embryonic stem cells to extraembryonic lineages. *Stem Cells.* 2005 Sep; **23**(8):1035-43. Epub 2005 Jun 27.

88) Itskovitz-Eldor J, Schuldiner M, Karsenti D, Eden A, Yanuka O, Amit M, Soreq H, Benvenisty N. Differentiation of human embryonic stem cells into embryoid bodies compromising the three embryonic germ layers. *Mol Med.* 2000 Feb; **6**(2):88-95.

89) Jinno Y, Ikeda Y, Yun K, Maw M, Masuzaki H, Fukuda H, Inuzuka K, Fujishita A, Ohtani Y, Okimoto T, et al. Establishment of functional imprinting of the H19 gene in human developing placentae. *Nat Genet.* 1995 Jul; **10**(3):318-24.

90) Jones BK, Levorse J, Tilghman SM. Deletion of a nuclease-sensitive region between the Igf2 and H19 genes leads to Igf2 misregulation and increased adiposity. *Hum Mol Genet.* 2001 Apr 1; **10**(8):807-14.

91) Kalscheuer VM, Mariman EC, Schepens MT, Rehder H, Ropers HH. The insulin-like growth factor type-2 receptor gene is imprinted in the mouse but not in humans. *Nat Genet.* 1993 Sep; **5**(1):74-8.

92) Kanai-Azuma M, Kanai Y, Gad JM, Tajima Y, Taya C, Kurohmaru M, Sanai Y, Yonekawa H, Yazaki K, Tam PP, Hayashi Y. Depletion of definitive gut endoderm in Sox17-null mutant mice. *Development.* 2002 May; **129**(10):2367-79.

93) Kaneda A, Feinberg AP. Loss of imprinting of IGF2: a common epigenetic modifier of intestinal tumor risk. *Cancer Res.* 2005 Dec 15; **65**(24):11236-40. Review.

94) Kaneko-Ishino T, Kuroiwa Y, Miyoshi N, Kohda T, Suzuki R, Yokoyama M, Viville S, Barton SC, Ishino F, Surani MA. Peg1/Mest imprinted gene on chromosome 6 identified by cDNA subtraction hybridization. *Nat Genet.* 1995 Sep; **11**(1):52-9.

95) Kaufman MH. Postcranial morphological features of homozygous tetraploid mouse embryos. *J Anat.* 1992 Jun; **180** (Pt 3):521-34.

96) Kawasaki H, Suemori H, Mizuseki K, Watanabe K, Urano F, Ichinose H, Haruta M, Takahashi M, Yoshikawa K, Nishikawa S, Nakatsuji N, Sasai Y. Generation of dopaminergic neurons and pigmented epithelia from primate ES cells by stromal cell-derived inducing activity. *Proc Natl Acad Sci U S A.* 2002 Feb 5; **99**(3):1580-5. Epub 2002 Jan 29.

97) Kehat I, Kenyagin-Karsenti D, Snir M, Segev H, Amit M, Gepstein A, Livne E, Binah O, Itskovitz-Eldor J, Gepstein L. Human embryonic stem cells can differentiate into myocytes with structural and functional properties of cardiomyocytes. *J Clin Invest.* 2001 Aug; **108**(3):407-14.

98) Keller G. Embryonic stem cell differentiation: emergence of a new era in biology and medicine. *Genes Dev.* 2005 May 15; **19**(10):1129-55. Review.

99) Khosla S, Dean W, Reik W, Feil R. Culture of preimplantation embryos and its long-term effects on gene expression and phenotype. *Hum Reprod Update.* 2001 Jul-Aug; **7**(4):419-27. Review.

100) Kim GD, Ni J, Kelesoglu N, Roberts RJ, Pradhan S. Co-operation and communication between the human maintenance and de novo DNA (cytosine-5) methyltransferases. *EMBO J.* 2002 Aug 1; **21**(15):4183 95.

101) Kim J, Ashworth L, Branscomb E, Stubbs L. The human homolog of a mouse-imprinted gene, Peg3, maps to a zinc finger gene-rich region of human chromosome 19q13.4. *Genome Res.* 1997 May; **7**(5):532-40.

102) Kim J, Bergmann A, Stubbs L. Exon sharing of a novel human zinc-finger gene, ZIM2, and paternally expressed gene 3 (PEG3). *Genomics.* 2000 Feb 15; **64**(1):114-8.

103) Kim J, Bergmann A, Wehri E, Lu X, Stubbs L. Imprinting and evolution of two Kruppel-type zinc-finger genes, ZIM3 and ZNF264, located in the PEG3/USP29 imprinted domain. *Genomics.* 2001 Sep; **77**(1-2):91-8.

104) Kim J, Kollhoff A, Bergmann A, Stubbs L. Methylation-sensitive binding of transcription factor YY1 to an insulator sequence within the paternally expressed imprinted gene, Peg3. *Hum Mol Genet.* 2003 Feb 1; **12**(3):233-45.

105) Kim J, Lu X, Stubbs L. Zim1, a maternally expressed mouse Kruppel-type zinc-finger gene located in proximal chromosome 7. *Hum Mol Genet.* 1999 May; **8**(5):847-54.

106) Kim J, Noskov VN, Lu X, Bergmann A, Ren X, Warth T, Richardson P, Kouprina N, Stubbs L. Discovery of a novel, paternally expressed ubiquitin-specific processing protease gene through comparative analysis of an imprinted region of mouse chromosome 7 and human chromosome 19q13.4. *Genome Res.* 2000 Aug; **10**(8):1138-47.

107) Klug MG, Soonpaa MH, Koh GY, Field LJ. Genetically selected cardiomyocytes from differentiating embronic stem cells form stable intracardiac grafts. *J Clin Invest.* 1996 Jul 1; **98**(1):216-24.

108) Ko YG, Nishino K, Hattori N, Arai Y, Tanaka S, Shiota K. Stage-by-stage change in DNA methylation status of Dnmt1 locus during mouse early development. *J Biol Chem.* 2005 Mar 11; **280**(10):9627-34. Epub 2005 Jan 4.

109) Kohda T, Asai A, Kuroiwa Y, Kobayashi S, Aisaka K, Nagashima G, Yoshida MC, Kondo Y, Kagiyama N, Kirino T, Kaneko-Ishino T, Ishino F. Tumour suppressor activity of human imprinted gene PEG3 in a glioma cell line. *Genes Cells.* 2001 Mar; **6**(3):237-47.

110) Kubo A, Shinozaki K, Shannon JM, Kouskoff V, Kennedy M, Woo S, Fehling HJ, Keller G. Development of definitive endoderm from embryonic stem cells in culture. *Development.* 2004 Apr; **131**(7):1651-62. Epub 2004 Mar 3.

111) Kuroiwa Y, Kaneko-Ishino T, Kagitani F, Kohda T, Li LL, Tada M, Suzuki R, Yokoyama M, Shiroishi T, Wakana S, Barton SC, Ishino F, Surani MA. Peg3

imprinted gene on proximal chromosome 7 encodes for a zinc finger protein. *Nat Genet.* 1996 Feb; **12**(2):186-90.

112) Langley SC, Jackson AA. Increased systolic blood pressure in adult rats induced by fetal exposure to maternal low protein diets. *Clin Sci (Lond).* 1994 Feb; **86**(2):217-22; discussion 121.

113) Langley-Evans SC, Welham SJ, Jackson AA. Fetal exposure to a maternal low protein diet impairs nephrogenesis and promotes hypertension in the rat. *Life Sci.* 1999; **64**(11):965-74.

114) Laureys G, Barton DE, Ullrich A, Francke U. Chromosomal mapping of the gene for the type II insulin-like growth factor receptor/cation-independent mannose 6-phosphate receptor in man and mouse. *Genomics.* 1988 Oct; **3**(3):224-9.

115) Leahy A, Xiong JW, Kuhnert F, Stuhlmann H. Use of developmental marker genes to define temporal and spatial patterns of differentiation during embryoid body formation. *J Exp Zool.* 1999 Jun 15; **284**(1):67-81.

116) Lee J, Inoue K, Ono R, Ogonuki N, Kohda T, Kaneko-Ishino T, Ogura A, Ishino F. Erasing genomic imprinting memory in mouse clone embryos produced from day 11.5 primordial germ cells. *Development.* 2002 Apr; **129**(8):1807-17.

117) Lee JB, Kim JM, Kim SJ, Park JH, Hong SH, Roh SI, Kim MK, Yoon HS. Comparative characteristics of three human embryonic stem cell lines. *Mol Cells.* 2005 Feb 28; **19**(1):31-8.

118) Leibovitch MP, Nguyen VC, Gross MS, Solhonne B, Leibovitch SA, Bernheim A. The human ASM (adult skeletal muscle) gene: expression and chromosomal assignment to 11p15. *Biochem Biophys Res Commun.* 1991 Nov 14; **180**(3):1241-50.

119) Leopardi P, Marcon F, Caiola S, Cafolla A, Siniscalchi E, Zijno A, Crebelli R. Effects of folic acid deficiency and MTHFR C677T polymorphism on spontaneous and radiation-induced micronuclei in human lymphocytes. *Mutagenesis.* 2006 Sep; **21**(5):327-33. Epub 2006 Sep 1.

120) Li E, Bestor TH, Jaenisch R. Targeted mutation of the DNA methyltransferase gene results in embryonic lethality. *Cell.* 1992 Jun 12; **69**(6):915-26.

121) Li L, Keverne EB, Aparicio SA, Ishino F, Barton SC, Surani MA. Regulation of maternal behavior and offspring growth by paternally expressed Peg3. *Science.* 1999 Apr 9; **284**(5412):330-3.

122) Lighten AD, Hardy K, Winston RM, Moore GE. Expression of mRNA for the insulin-like growth factors and their receptors in human preimplantation embryos. *Mol Reprod Dev.* 1997 Jun; **47**(2):134-9.

123) Lighten AD, Hardy K, Winston RM, Moore GE. IGF2 is parentally imprinted in human preimplantation embryos. *Nat Genet.* 1997 Feb; **15**(2):122-3.

124) Lin X, Buff EM, Perrimon N, Michelson AM. Heparan sulfate proteoglycans are essential for FGF receptor signaling during Drosophila embryonic development. *Development.* 1999 Sep; **126**(17):3715-23.

125) Lillycrop KA, Phillips ES, Jackson AA, Hanson MA, Burdge GC. Dietary protein restriction of pregnant rats induces and folic acid supplementation prevents epigenetic modification of hepatic gene expression in the offspring. *J Nutr.* 2005 Jun; **135**(6):1382-6.

126) Lin T, Chao C, Saito S, Mazur SJ, Murphy ME, Appella E, Xu Y. p53 induces differentiation of mouse embryonic stem cells by suppressing Nanog expression. *Nat Cell Biol.* 2005 Feb; **7**(2):165-71. Epub 2004 Dec 26.

127) Ling JQ, Li T, Hu JF, Vu TH, Chen HL, Qiu XW, Cherry AM, Hoffman AR. CTCF mediates interchromosomal colocalization between Igf2/H19 and Wsb1/Nf1. *Science.* 2006 Apr 14; **312**(5771):269-72.

128) Liu Y, Asakura M, Inoue H, Nakamura T, Sano M, Niu Z, Chen M, Schwartz RJ, Schneider MD. Sox17 is essential for the specification of cardiac mesoderm in embryonic stem cells. *Proc Natl Acad Sci U S A.* 2007 Mar 6; **104**(10):3859-64. Epub 2007 Feb 28.

129) Lopes S, Lewis A, Hajkova P, Dean W, Oswald J, Forne T, Murrell A, Constancia M, Bartolomei M, Walter J, Reik W. Epigenetic modifications in an imprinting cluster are controlled by a hierarchy of DMRs suggesting long-range chromatin interactions. *Hum Mol Genet.* 2003 Feb 1; **12**(3):295-305.

130) Luckett WP. The development of primordial and definitive amniotic cavities in early Rhesus monkey and human embryos. *Am J Anat.* 1975 Oct; **144**(2):149-67.

131) Mann MR, Chung YG, Nolen LD, Verona RI, Latham KE, Bartolomei MS. Selective loss of imprinting in the placenta following preimplantation development in culture. *Development.* 2004 Aug; **131**(15):3727-35. Epub 2004 Jul 7.

132) Matin MM, Walsh JR, Gokhale PJ, Draper JS, Bahrami AR, Morton I, Moore HD, Andrews PW. Specific knockdown of Oct4 and beta2-microglobulin expression by RNA interference in human embryonic stem cells and embryonic carcinoma cells. *Stem Cells.* 2004; **22**(5):659-68.

133) Mc Cabe DC, Caudill MA. DNA methylation, genomic silencing, and links to nutrition and cancer. *Nutr Rev.* 2005 Jun; **63**(6 Pt 1):183-95. Review.

134) McGrath J, Solter D. Completion of mouse embryogenesis requires both the maternal and paternal genomes. *Cell.* 1984 May; **37**(1):179-83.

135) Meehan RR. DNA methylation in animal development. *Semin Cell Dev Biol.* 2003 Feb; **14**(1):53-65. Review.

136) Mertineit C, Yoder JA, Taketo T, Laird DW, Trasler JM, Bestor TH. Sex-specific exons control DNA methyltransferase in mammalian germ cells. *Development.* 1998 Mar; **125**(5):889-97.

137) Mitsui K, Tokuzawa Y, Itoh H, Segawa K, Murakami M, Takahashi K, Maruyama M, Maeda M, Yamanaka S. The homeoprotein Nanog is required for maintenance of pluripotency in mouse epiblast and ES cells. *Cell.* 2003 May 30; **113**(5):631-42.

138) Mizuseki K, Sakamoto T, Watanabe K, Muguruma K, Ikeya M, Nishiyama A, Arakawa A, Suemori H, Nakatsuji N, Kawasaki H, Murakami F, Sasai Y. Generation of neural crest-derived peripheral neurons and floor plate cells from mouse and primate embryonic stem cells. *Proc Natl Acad Sci U S A.* 2003 May 13; **100**(10):5828-33. Epub 2003 Apr 30.

139) Monk D, Sanches R, Arnaud P, Apostolidou S, Hills FA, Abu-Amero S, Murrell A, Friess H, Reik W, Stanier P, Constancia M, Moore GE. Imprinting of IGF2 P0 transcript and novel alternatively spliced INS-IGF2 isoforms show differences

between mouse and human. *Hum Mol Genet.* 2006 Apr 15; **15**(8):1259-69. Epub 2006 Mar 10.

140) Morison IM, Becroft DM, Taniguchi T, Woods CG, Reeve AE. Somatic overgrowth associated with overexpression of insulin-like growth factor II. *Nat Med.* 1996 Mar; **2**(3):311-6.

141) Mossman AK, Sourris K, Ng E, Stanley EG, Elefanty AG. Mixl1 and oct4 proteins are transiently co-expressed in differentiating mouse and human embryonic stem cells. *Stem Cells Dev.* 2005 Dec; **14**(6):656-63.

142) Motiwala T, Ghoshal K, Das A, Majumder S, Weichenhan D, Wu YZ, Holman K, James SJ, Jacob ST, Plass C. Suppression of the protein tyrosine phosphatase receptor type O gene (PTPRO) by methylation in hepatocellular carcinomas. *Oncogene.* 2003 Sep 25; **22**(41):6319-31.

143) Motyka B, Korbutt G, Pinkoski MJ, Heibein JA, Caputo A, Hobman M, Barry M, Shostak I, Sawchuk T, Holmes CF, Gauldie J, Bleackley RC. Mannose 6-phosphate/insulin-like growth factor II receptor is a death receptor for granzyme B during cytotoxic T cell-induced apoptosis. *Cell.* 2000 Oct 27; **103**(3):491-500.

144) Mummery C, Ward-van Oostwaard D, Doevendans P, Spijker R, van den Brink S, Hassink R, van der Heyden M, Opthof T, Pera M, de la Riviere AB, Passier R, Tertoolen L. Differentiation of human embryonic stem cells to cardiomyocytes: role of coculture with visceral endoderm-like cells. *Circulation.* 2003 Jun 3; **107**(21):2733-40. Epub 2003 May 12.

145) Mummery C, Ward D, van den Brink CE, Bird SD, Doevendans PA, Opthof T, Brutel de la Riviere A, Tertoolen L, van der Heyden M, Pera M. Cardiomyocyte differentiation of mouse and human embryonic stem cells. *J Anat.* 2002 Mar; **200**(Pt 3):233-42.

146) Murphy SK, Wylie AA, Jirtle RL. Imprinting of PEG3, the human homologue of a mouse gene involved in nurturing behavior. Genomics. 2001 Jan 1; **71**(1):110-7.

147) Murrell A, Heeson S, Cooper WN, Douglas E, Apostolidou S, Moore GE, Maher ER, Reik W. An association between variants in the IGF2 gene and Beckwith-

Wiedemann syndrome: interaction between genotype and epigenotype. *Hum Mol Genet.* 2004 Jan 15; **13**(2):247 55. Epub 2003 Nov 25.

148) Mutter GL, Stewart CL, Chaponot ML, Pomponio RJ. Oppositely imprinted genes H19 and insulin-like growth factor 2 are coexpressed in human androgenetic trophoblast. *Am J Hum Genet.* 1993 Nov; **53**(5):1096-102.

149) Nagy A, Rossant J, Nagy R, Abramow-Newerly W, Roder JC. Derivation of completely cell culture-derived mice from early-passage embryonic stem cells. *Proc Natl Acad Sci U S A.* 1993 Sep 15; **90**(18):8424-8.

150) Newnham JP, Moss TJ, Nitsos I, Sloboda DM, Challis JR. Nutrition and the early origins of adult disease. *Asia Pac J Clin Nutr.* 2002; **11** Suppl 3:S537-42.

151) Nichols J, Zevnik B, Anastassiadis K, Niwa H, Klewe-Nebenius D, Chambers I, Scholer H, Smith A. Formation of pluripotent stem cells in the mammalian embryo depends on the POU transcription factor Oct4. *Cell.* 1998 Oct 30; **95**(3):379-91.

152) Ninomiya H, Elinson RP, Winklbauer R. Antero-posterior tissue polarity links mesoderm convergent extension to axial patterning. *Nature.* 2004 Jul 15; **430**(6997):364-7.

153) Nistor GI, Totoiu MO, Haque N, Carpenter MK, Keirstead HS. Human embryonic stem cells differentiate into oligodendrocytes in high purity and myelinate after spinal cord transplantation. *Glia.* 2005 Feb; **49**(3):385-96.

154) Niwa H, Miyazaki J, Smith AG. Quantitative expression of Oct-3/4 defines differentiation, dedifferentiation or self-renewal of ES cells. *Nat Genet.* 2000 Apr; **24**(4):372-6.

155) Oka M, Rodic N, Graddy J, Chang LJ, Terada N. CpG sites preferentially methylated by Dnmt3a in vivo. *J Biol Chem.* 2006 Apr 14; **281**(15):9901-8. Epub 2006 Jan 26

156) Okano M, Bell DW, Haber DA, Li E. DNA methyltransferases Dnmt3a and Dnmt3b are essential for de novo methylation and mammalian development. *Cell.* 1999 Oct 29; **99**(3):247-57.

157) Okano M, Xie S, Li E. Dnmt2 is not required for de novo and maintenance methylation of viral DNA in embryonic stem cells. *Nucleic Acids Res.* 1998 Jun 1; **26**(11):2536-40.

158) Ogawa O, McNoe LA, Eccles MR, Morison IM, Reeve AE. Human insulin-like growth factor type I and type II receptors are not imprinted. *Hum Mol Genet.* 1993 Dec; **2**(12):2163-5.

159) Oshima A, Nolan CM, Kyle JW, Grubb JH, Sly WS. The human cation-independent mannose 6-phosphate receptor. Cloning and sequence of the full-length cDNA and expression of functional receptor in COS cells. *J Biol Chem.* 1988 Feb 15; **263**(5):2553-62.

160) Ozanne SE, Fernandez-Twinn D, Hales CN. Fetal growth and adult diseases. *Semin Perinatol.* 2004 Feb; **28**(1):81-7. Review.

161) Painter RC, Roseboom TJ, Bleker OP. Prenatal exposure to the Dutch famine and disease in later life: an overview. *Reprod Toxicol.* 2005 Sep-Oct; **20**(3):345-52. Review.

162) Paoloni-Giacobino A, Chaillet JR. Genomic imprinting and assisted reproduction. *Reprod Health.* 2004 Oct 26; **1**(1):6.

163) Pankratz MT, Li XJ, Lavaute TM, Lyons EA, Chen X, Zhang SC. Directed neural differentiation of human embryonic stem cells via an obligated primitive anterior stage. *Stem Cells.* 2007 Jun; **25**(6):1511 20. Epub 2007 Mar 1.

164) Pebay A, Wong RC, Pitson SM, Wolvetang EJ, Peh GS, Filipczyk A, Koh KL, Tellis I, Nguyen LT, Pera MF. Essential roles of sphingosine-1-phosphate and platelet-derived growth factor in the maintenance of human embryonic stem cells. *Stem Cells.* 2005 Nov-Dec; **23**(10):1541-8. Epub 2005 Aug 4.

165) Pedone PV, Tirabosco R, Cavazzana AO, Ungaro P, Basso G, Luksch R, Carli M, Bruni CB, Frunzio R, Riccio A. Parental imprinting of rat insulin-like growth factor II gene promoters is coordinately regulated. *J Biol Chem.* 1994 Sep 30; **269**(39):23970-5.

166) Pera MF, Andrade J, Houssami S, Reubinoff B, Trounson A, Stanley EG, Ward-van Oostwaard D, Mummery C. Regulation of human embryonic stem cell differentiation by BMP-2 and its antagonist noggin. *J Cell Sci.* 2004 Mar 1**; 117**(Pt 7):1269-80.

167) Pera MF, Reubinoff B, Trounson A. Human embryonic stem cells. *J Cell Sci.* 2000 Jan; **113**(Pt 1):5-10. Review.

168) Perrier AL, Tabar V, Barberi T, Rubio ME, Bruses J, Topf N, Harrison NL, Studer L. Derivation of midbrain dopamine neurons from human embryonic stem cells. *Proc Natl Acad Sci U S A.* 2004 Aug 24; **101**(34):12543-8. Epub 2004 Aug 13.

169) Pesce M. Scholer HR. Oct-4: gatekeeper in the beginnings of mammalian development. *Stem Cells.* 2001; **19**(4):271-8. Review.

170) Pfeifer K, Leighton PA, Tilghman SM. The structural H19 gene is required for transgene imprinting. *Proc Natl Acad Sci U S A.* 1996 Nov 26; **93**(24):13876-83.

171) Pradan S, Esteve PO. Mammalian DNA (cytosine-5) methyltransferases and their expression. *Clin Immunol.* 2003 Oct; **109**(1):6-16. Review.

172) Pyle AD, Lock LF, Donovan PJ. Neurotrophins mediate human embryonic stem cell survival. *Nat Biotechnol.* 2006 Mar; **24**(3):344-50. Epub 2006 Jan 29.

173) Rachmilewitz J, Goshen R, Ariel I, Schneider T, de Groot N, Hochberg A. Parental imprinting of the human H19 gene. *FEBS Lett.* 1992 Aug 31; **309**(1):25-8.

174) Rainier S, Johnson LA, Dobry CJ, Ping AJ, Grundy PE, Feinberg AP. Relaxation of imprinted genes in human cancer. *Nature.* 1993 Apr 22; **362**(6422):747-9.

175) Rambhatla L, Chiu CP, Kundu P, Peng Y, Carpenter MK. Generation of hepatocyte-like cells from human embryonic stem cells. *Cell Transplant.* 2003; **12**(1):1-11.

176) Ravelli AC, van der Meulen JH, Michels RP, Osmond C, Barker DJ, Hales CN, Bleker OP. Glucose tolerance in adults after prenatal exposure to famine. *Lancet.* 1998 Jan 17; **351**(9097):173-7.

177) Ravelli GP, Stein ZA, Susser MW. Obesity in young men after famine exposure in utero and early infancy. *N Engl J Med.* 1976 Aug 12; **295**(7):349-53.

178) Razin A, Shemer R. DNA methylation in early development. *Hum Mol Genet.* 1995; **4** Spec No:1751-5. Review.

179) Reed ML, Leff SE. Maternal imprinting of human SNRPN, a gene deleted in Prader-Willi syndrome. *Nat Genet.* 1994 Feb; **6**(2):163-7.

180) Reeve AE, Eccles MR, Wilkins RJ, Bell GI, Millow LJ. Expression of insulin-like growth factor-II transcripts in Wilms' tumour. *Nature.* 1985 Sep 19-25; **317**(6034):258-60.

181) Reik W, Constancia M, Fowden A, Anderson N, Dean W, Ferguson-Smith A, Tycko B, Sibley C. Regulation of supply and demand for maternal nutrients in mammals by imprinted genes. *J Physiol.* 2003 Feb 15; **547**(Pt 1):35-44. Epub 2003 Jan 24. Review.

182) Reik W, Dean W, Walter J. Epigenetic reprogramming in mammalian development. *Science.* 2001 Aug 10; **293**(5532):1089-93. Review.

183) Relaix F, Wei XJ, Wu X, Sassoon DA. Peg3/Pw1 is an imprinted gene involved in the TNF-NFkappaB signal transduction pathway. *Nat Genet.* 1998 Mar;18(3):287-91.

184) Reubinoff BE, Itsykson P, Turetsky T, Pera MF, Reinhartz E, Itzik A, Ben-Hur T. Neural progenitors from human embryonic stem cells. *Nat Biotechnol.* 2001 Dec; **19**(12):1134-40.

185) Reubinoff BE, Pera MF, Fong CY, Trounson A, Bongso A. Embryonic stem cell lines from human blastocysts: somatic differentiation in vitro. *Nat Biotechnol.* 2000 Apr; **18**(4):399-404. Erratum in: *Nat Biotechnol* 2000 May; **18**(5):559.

186) Richards M, Fong CY, Chan WK, Wong PC, Bongso A. Human feeders support prolonged undifferentiated growth of human inner cell masses and embryonic stem cells. *Nat Biotechnol.* 2002 Sep; **20**(9):933-6. Epub 2002 Aug 5.

187) Richards M, Tan SP, Tan JH, Chan WK, Bongso A. The transcriptome profile of human embryonic stem cells as defined by SAGE. *Stem Cells.* 2004; **22**(1):51-64.

188) Riesewijk AM, Schepens MT, Welch TR, van den Berg-Loonen EM, Mariman EM, Ropers HH, Kalscheuer VM. Maternal-specific methylation of the human IGF2R gene is not accompanied by allele-specific transcription. *Genomics.* 1996 Jan 15; **31**(2):158-66.

189) Robb L, Hartley L, Begley CG, Brodnicki TC, Copeland NG, Gilbert DJ, Jenkins NA, Elefanty AG. Cloning, expression analysis, and chromosomal localization of murine and human homologues of a Xenopus mix gene. *Dev Dyn.* 2000 Dec; **219**(4):497-504.

190) Rountree MR, Bachman KE, Baylin SB. DNMT1 binds HDAC2 and a new co-repressor, DMAP1, to form a complex at replication foci. *Nat Genet.* 2000 Jul; **25**(3):269-77.

191) Rugg-Gunn PJ, Ferguson-Smith AC, Pedersen RA. Epigenetic status of human embryonic stem cells. *Nat Genet.* 2005 Jun; **37**(6):585-7. Epub 2005 May 1.

192) Saitoh S, Wada T. Parent-of-origin specific histone acetylation and reactivation of a key imprinted gene locus in Prader-Willi syndrome. *Am J Hum Genet.* 2000 Jun; **66**(6):1958-62. Epub 2000 Apr 20.

193) Santos F, Hendrich B, Reik W, Dean W. Dynamic reprogramming of DNA methylation in the early mouse embryo. *Dev Biol.* 2002 Jan 1; **241**(1):172-82.

194) Sato N, Meijer L, Skaltsounis L, Greengard P, Brivanlou AH. Maintenance of pluripotency in human and mouse embryonic stem cells through activation of Wnt signaling by a pharmacological GSK-3-specific inhibitor. *Nat Med.* 2004 Jan; **10**(1):55-63. Epub 2003 Dec 21.

195) Schulz TC, Noggle SA, Palmarini GM, Weiler DA, Lyons IG, Pensa KA, Meedeniya AC, Davidson BP, Lambert NA, Condie BG. Differentiation of human embryonic stem cells to dopaminergic neurons in serum-free suspension culture. *Stem Cells.* 2004; **22**(7):1218-38.

196) Schulz TC, Palmarini GM, Noggle SA, Weiler DA, Mitalipova MM, Condie BG. Directed neuronal differentiation of human embryonic stem cells. *BMC Neurosci.* 2003 Oct 22; **4**:27.

197) Scott JM. Folate and vitamin B12. *Proc Nutr Soc.* 1999 May; **58**(2):441-8. Review.

198) Segev H, Fishman B, Ziskind A, Shulman M, Itskovitz-Eldor J. Differentiation of human embryonic stem cells into insulin-producing clusters. *Stem Cells.* 2004; **22**(3):265-74.

199) Semb H. Human embryonic stem cells: origin, properties and applications. *APMIS.* 2005 Nov-Dec; **113**(11-12):743-50. Review.

200) Shi Y, Massague J. Mechanisms of TGF-beta signaling from cell membrane to the nucleus. *Cell.* 2003 Jun 13;113(6):685-700. Review.

201) Skottman H, Mikkola M, Lundin K, Olsson C, Stromberg AM, Tuuri T, Otonkoski T, Hovatta O, Lahesmaa R. Gene expression signatures of seven individual human embryonic stem cell lines. *Stem Cells.* 2005 Oct; **23**(9):1343-56. Epub 2005 Aug 4.

202) Silva J, Chambers I, Pollard S, Smith A. Nanog promotes transfer of pluripotency after cell fusion. *Nature.* 2006 Jun 22; **441**(7096):997-1001. Epub 2006 Jun 14.

203) Sleutels F, Zwart R, Barlow DP. The non-coding Air RNA is required for silencing autosomal imprinted genes. *Nature.* 2002 Feb 14; **415**(6873):810-3.

204) Smith AG. Embryo-derived stem cells: of mice and men. *Annu Rev Cell Dev Biol.* 2001; **17**:435-62. Review.

205) Smith AG, Heath JK, Donaldson DD, Wong GG, Moreau J, Stahl M, Rogers D. Inhibition of pluripotential embryonic stem cell differentiation by purified polypeptides. *Nature.* 1988 Dec 15; **336**(6200):688-90.

206) Solter D, Knowles BB. Monoclonal antibody defining a stage-specific mouse embryonic antigen (SSEA-1). *Proc Natl Acad Sci U S A.* 1978 Nov; **75**(11):5565-9.

207) Soria B, Roche E, Berna G, Leon-Quinto T, Reig JA, Martin F. Insulin-secreting cells derived from embryonic stem cells normalize glycemia in streptozotocin-induced diabetic mice. *Diabetes.* 2000 Feb; **49**(2):157-62.

208) Sparago A, Cerrato F, Vernucci M, Ferrero GB, Silengo MC, Riccio A. Microdeletions in the human H19 DMR result in loss of IGF2 imprinting and Beckwith-Wiedemann syndrome. *Nat Genet.* 2004 Sep; **36**(9):958-60. Epub 2004 Aug 15.

209) Stancheva I, Meehan RR. Transient depletion of xDnmt1 leads to premature gene activation in Xenopus embryos. *Genes Dev.* 2000 Feb 1; **14**(3):313-27.

210) Steele W, Allegrucci C, Singh R, Lucas E, Priddle H, Denning C, Sinclair K, Young L. Human embryonic stem cell methyl cycle enzyme expression: modelling epigenetic programming in assisted reproduction? *Reprod Biomed Online.* 2005 Jun; **10**(6):755-66.

211) Stojkovic M, Lako M, Stojkovic P, Stewart R, Przyborski S, Armstrong L, Evans J, Herbert M, Hyslop L, Ahmad S, Murdoch A, Strachan T. Derivation of human embryonic stem cells from day-8 blastocysts recovered after three-step in vitro culture. *Stem Cells.* 2004; **22**(5):790-7.

212) Strelchenko N, Verlinsky O, Kukharenko V, Verlinsky Y. Morula-derived human embryonic stem cells. *Reprod Biomed Online.* 2004 Dec; **9**(6):623-9.

213) Suitor CW, Bailey LB. Dietary folate equivalents: interpretation and application. *J Am Diet Assoc.* 2000 Jan; **100**(1):88-94.

214) Sun BW, Yang AC, Feng Y, Sun YJ, Zhu Y, Zhang Y, Jiang H, Li CL, Gao FR, Zhang ZH, Wang WC, Kong XY, Jin G, Fu SJ, Jin Y. Temporal and parental-specific expression of imprinted genes in a newly derived Chinese human embryonic stem cell line and embryoid bodies. *Hum Mol Genet.* 2006 Jan 1; **15**(1):65-75. Epub 2005 Nov 30.

215) Surani MA. Reprogramming of genome function through epigenetic inheritance. *Nature.* 2001 Nov 1; **414**(6859):122-8. Review.

216) Surani MA, Barton SC, Norris ML. Development of reconstituted mouse eggs suggests imprinting of the genome during gametogenesis. *Nature.* 1984 Apr 5-11; **308**(5959):548-50.

217) Svendsen CN, Smith AG. New prospects for human stem-cell therapy in the nervous system. *Trends Neurosci.* 1999 Aug; **22**(8):357-64. Review.

218) Takai D, Gonzales FA, Tsai YC, Thayer MJ, Jones PA. Large scale mapping of methylcytosines in CTCF-binding sites in the human H19 promoter and aberrant

hypomethylation in human bladder cancer. *Hum Mol Genet.* 2001 Nov 1; **10**(23):2619-26.

219) Takeda J, Seino S, Bell GI. Human Oct3 gene family: cDNA sequences, alternative splicing, gene organization, chromosomal location, and expression at low levels in adult tissues. *Nucleic Acids Res.* 1992 Sep 11; **20**(17):4613-20.

220) Tam PP, Loebel DA. Gene function in mouse embryogenesis: get set for gastrulation. *Nat Rev Genet.* 2007 May; **8**(5):368-81. Epub 2007 Mar 27. Review.

221) Tantisira KG, Weiss ST. Childhood infections and asthma: at the crossroads of the hygiene and Barker hypotheses. *Respir Res.* 2001; **2**(6):324-7. Epub 2001 Sep 13. Review.

222) Thomson JA, Itskovitz-Eldor J, Shapiro SS, Waknitz MA, Swiergiel JJ, Marshall VS, Jones JM. Embryonic stem cell lines derived from human blastocysts. *Science*. 1998 Nov 6; **282**(5391):1145-7. Erratum in: *Science* 1998 Dec 4; **282**(5395):1827.

223) Thorvaldsen JL, Duran KL, Bartolomei MS. Deletion of the H19 differentially methylated domain results in loss of imprinted expression of H19 and Igf2. *Genes Dev.* 1998 Dec 1; **12**(23):3693-702.

224) Thurston A, Lucas ES, Allegrucci C, Steele W, Young LE. Region-specific DNA methylation in the preimplantation embryo as a target for genomic plasticity. *Theriogenology*. 2007 May 3.

225) Tong PY, Tollefsen SE, Kornfeld S. The cation-independent mannose 6-phosphate receptor binds insulin-like growth factor II. *J Biol Chem.* 1988 Feb 25; **263**(6):2585-8.

226) Trounson A. The production and directed differentiation of human embryonic stem cells. *Endocr Rev.* 2006 Apr; **27**(2):208-19. Epub 2006 Jan 24. Review.

227) Trujillo E, Davis C, Milner J. Nutrigenomics, proteomics, metabolomics, and the practice of dietetics. *J Am Diet Assoc.* 2006 Mar; **106**(3):403-13. Review.

228) Ulaner GA, Yang Y, Hu JF, Li T, Vu TH, Hoffman AR. Loss of imprinting of IGF2 and H19 in osteosarcoma is accompanied by reciprocal methylation changes of a CTCF-binding site. *Hum Mol Genet.* 2003 Mar 1; **12**(5):535-49.

229) Vallier L, Reynolds D, Pedersen RA. Nodal inhibits differentiation of human embryonic stem cells along the neuroectodermal default pathway. *Dev Biol.* 2004 Nov 15; **275**(2):403-21.

230) Van den Veyver IB. Genetic effects of methylation diets. *Annu Rev Nutr.* 2002; **22**:255-82. Epub 2002 Jan 4. Review.

231) Vire E, Brenner C, Deplus R, Blanchon L, Fraga M, Didelot C, Morey L, Van Eynde A, Bernard D, Vanderwinden JM, Bollen M, Esteller M, Di Croce L, de Launoit Y, Fuks F. The Polycomb group protein EZH2 directly controls DNA methylation. *Nature.* 2006 Feb 16; **439**(7078):871-4. Epub 2005 Dec 14. Erratum in: *Nature.* 2007 Apr 12; **446**(7137):824.

232) Vu TH, Li T, Hoffman AR. Promoter-restricted histone code, not the differentially methylated DNA regions or antisense transcripts, marks the imprinting status of IGF2R in human and mouse. *Hum Mol Genet.* 2004 Oct 1; **13**(19):2233-45. Epub 2004 Aug 4.

233) Vu TH, Li T, Nguyen D, Nguyen BT, Yao XM, Hu JF, Hoffman AR. Symmetric and asymmetric DNA methylation in the human IGF2-H19 imprinted region. *Genomics.* 2000 Mar 1; **64**(2):132-43.

234) Wang G, Zhang H, Zhao Y, Li J, Cai J, Wang P, Meng S, Feng J, Miao C, Ding M, Li D, Deng H. Noggin and bFGF cooperate to maintain the pluripotency of human embryonic stem cells in the absence of feeder layers. *Biochem Biophys Res Commun.* 2005 May 13; **330**(3):934-42.

235) Waterland RA, Jirtle RL. Early nutrition, epigenetic changes at transposons and imprinted genes, and enhanced susceptibility to adult chronic diseases. *Nutrition.* 2004 Jan; **20**(1):63-8. Review. No abstract available.

236) Waterland RA, Jirtle RL. Transposable elements: targets for early nutritional effects on epigenetic gene regulation. *Mol Cell Biol.* 2003 Aug; **23**(15):5293-300.

237) Wei CL, Miura T, Robson P, Lim SK, Xu XQ, Lee MY, Gupta S, Stanton L, Luo Y, Schmitt J, Thies S, Wang W, Khrebtukova I, Zhou D, Liu ET, Ruan YJ, Rao M, Lim

B. Transcriptome profiling of human and murine ESCs identifies divergent paths required to maintain the stem cell state. *Stem Cells.* 2005 Feb; **23**(2):166-85.

238) Weisenberger DJ, Velicescu M, Cheng JC, Gonzales FA, Liang G, Jones PA. Role of the DNA methyltransferase variant DNMT3b3 in DNA methylation. *Mol Cancer Res.* 2004 Jan; **2**(1):62-72.

239) Weisenberger DJ, Velicescu M, Preciado-Lopez MA, Gonzales FA, Tsai YC, Liang G, Jones PA. Identification and characterization of alternatively spliced variants of DNA methyltransferase 3a in mammalian cells. *Gene.* 2002 Sep 18; **298**(1):91-9.

240) Wey E, Bartholdi D, Riegel M, Nazlican H, Horsthemke B, Schinzel A, Baumer A. Mosaic imprinting defect in a patient with an almost typical expression of the Prader-Willi syndrome. *Eur J Hum Genet.* 2005 Mar; **13**(3):273-7.

241) Wijmenga C, van den Heuvel LP, Strengman E, Luyten JA, van der Burgt IJ, de Groot R, Smeets DF, Draaisma JM, van Dongen JJ, De Abreu RA, Pearson PL, Sandkuijl LA, Weemaes CM. Localization of the ICF syndrome to chromosome 20 by homozygosity mapping. *Am J Hum Genet.* 1998 Sep; **63**(3):803-9.

242) Wolthers KR, Scrutton NS. Protein interactions in the human methionine synthase-methionine synthase reductase complex and implications for the mechanism of enzyme reactivation. *Biochemistry.* 2007 Jun 12; **46**(23):6696-709. Epub 2007 May 4.

243) Wood HB, Episkopou V. Comparative expression of the mouse Sox1, Sox2 and Sox3 genes from pre-gastrulation to early somite stages. *Mech Dev.* 1999 Aug; **86**(1-2):197-201.

244) Xu C, Inokuma MS, Denham J, Golds K, Kundu P, Gold JD, Carpenter MK. Feeder-free growth of undifferentiated human embryonic stem cells. *Nat Biotechnol.* 2001 Oct; **19**(10):971-4.

245) Xu C, Police S, Rao N, Carpenter MK. Characterization and enrichment of cardiomyocytes derived from human embryonic stem cells. *Circ Res.* 2002 Sep 20; **91**(6):501-8.

246) Xu C, Rosler E, Jiang J, Lebkowski JS, Gold JD, O'Sullivan C, Delavan-Boorsma K, Mok M, Bronstein A, Carpenter MK. Basic fibroblast growth factor supports undifferentiated human embryonic stem cell growth without conditioned medium. *Stem Cells.* 2005 Mar; **23**(3):315-23.

247) Xu GL, Bestor TH, Bourc'his D, Hsieh CL, Tommerup N, Bugge M, Hulten M, Qu X, Russo JJ, Viegas-Pequignot E. Chromosome instability and immunodeficiency syndrome caused by mutations in a DNA methyltransferase gene. *Nature.* 1999 Nov 11; **402**(6758):187-91.

248) Xu RH, Chen X, Li DS, Li R, Addicks GC, Glennon C, Zwaka TP, Thomson JA. BMP4 initiates human embryonic stem cell differentiation to trophoblast. *Nat Biotechnol.* 2002 Dec; **20**(12):1261-4. Epub 2002 Nov 11.

249) Xu RH, Peck RM, Li DS, Feng X, Ludwig T, Thomson JA. Basic FGF and suppression of BMP signaling sustain undifferentiated proliferation of human ES cells. *Nat Methods.* 2005 Mar; **2**(3):185-90. Epub 2005 Feb 17.

250) Xu Y, Goodyer CG, Deal C, Polychronakos C. Functional polymorphism in the parental imprinting of the human IGF2R gene. *Biochem Biophys Res Commun.* 1993 Dec 15; **197**(2):747-54.

251) Yamada T. Caudalization by the amphibian organizer: brachyury, convergent extension and retinoic acid. *Development.* 1994 Nov; **120**(11):3051-62. Review.

252) Ying QL, Nichols J, Chambers I, Smith A. BMP induction of Id proteins suppresses differentiation and sustains embryonic stem cell self-renewal in collaboration with STAT3. *Cell.* 2003 Oct 31; **115**(3):281-92.

253) Yoder JA, Bestor TH. A candidate mammalian DNA methyltransferase related to pmt1p of fission yeast. *Hum Mol Genet.* 1998 Feb; **7**(2):279-84.

254) Yoder JA, Yen RW, Vertino PM, Bestor TH, Baylin SB. New 5' regions of the murine and human genes for DNA (cytosine-5)-methyltransferase. *J Biol Chem.* 1996 Dec 6; **271**(49):31092-7.

255) Young LE, Beaujean N. DNA methylation in the preimplantation embryo: the differing stories of the mouse and sheep. *Anim Reprod Sci.* 2004 Jul; **82**-83:61-78. Review.

256) Young LE, Fernandes K, McEvoy TG, Butterwith SC, Gutierrez CG, Carolan C, Broadbent PJ, Robinson JJ, Wilmut I, Sinclair KD. Epigenetic change in IGF2R is associated with fetal overgrowth after sheep embryo culture. *Nat Genet.* 2001 Feb; **27**(2):153-4.

257) Zeineddine D, Papadimou E, Chebli K, Gineste M, Liu J, Grey C, Thurig S, Behfar A, Wallace VA, Skerjanc IS, Puceat M. Oct-3/4 dose dependently regulates specification of embryonic stem cells toward a cardiac lineage and early heart development. *Dev Cell.* 2006 Oct; **11**(4):535-46.

258) Zemel S, Bartolomei MS, Tilghman SM. Physical linkage of two mammalian imprinted genes, H19 and insulin-like growth factor 2. *Nat Genet.* 1992 Sep; **2**(1):61-5.

259) Zhang Y, Tycko B. Monoallelic expression of the human H19 gene. *Nat Genet.* 1992 Apr; **1**(1):40-4.

260) Zhao S, Nichols J, Smith AG, Li M. SoxB transcription factors specify neuroectodermal lineage choice in ES cells. *Mol Cell Neurosci.* 2004 Nov; **27**(3):332-42.