WHAT IS CLAIMED IS:

1. A method of inducing pluripotency in a human somatic cell, the method comprising:

transducing the human somatic cell with one or more retroviral expression vectors encoding (i) OCT4 and SOX2; (ii) at least one of KLF4 and c-MYC; and (iii) NFRKB to thereby co-express the OCT4, SOX2, the at least one of KLF4 and c-MYC and the NFRKB in the human somatic cell;

culturing the human somatic cell in human embryonic stem cell culture medium in the presence of feeder cells to produce induced pluripotent stem cells.

2. The method of claim 1, wherein the one or more retroviral expression vectors encodes NFRKB, OCT4, SOX2 and KLF4.

3. The method of claim 2, wherein the one or more retroviral expression vectors also encodes c-MYC.

4. The method of claim 1, wherein the one or more retroviral expression vectors encodes NFRKB, OCT4, SOX2 and c-MYC.

5. The method of any one of claims 1 to 4, wherein the human somatic cell is fully differentiated prior to said culturing.

6. The method of any one of claims 1 to 4, wherein the human somatic cell is a human fibroblast prior to said culturing.

7. The method of any one of claims 1 to 6, wherein the one or more expression vectors further encodes PRDM14.

8. An isolated human somatic cell comprising one or more retroviral expression vectors encoding (i) OCT4 and SOX2; (ii) at least one of KLF4 and c-MYC; and (iii) NFRKB.

9. The isolated human somatic cell of claim 8, wherein the one or more retroviral expression vectors encodes OCT4, SOX2, KLF4 and NFRKB.

10. The isolated human somatic cell of claim 8, wherein the one or more retroviral expression vectors encodes OCT4, SOX2, c-MYC and NFRKB.

11. The isolated human somatic cell of claim 9, wherein the one or more retroviral expression vectors also encodes c-MYC.

12. The isolated human somatic cell of any one of claims 8 to 11, in which pluripotency has been induced.

13. The isolated human somatic cell of any one of claims 8 to 11, wherein said isolated human somatic cell is a fibroblast.

14. The isolated human somatic cell of any one of claims 8 to 13, wherein the one or more expression vectors further encodes PRDM14.

15. A method of maintaining pluripotency of a human embryonic stem cell (hESC) transducing with one or more retroviral expression vectors encoding (i) OCT4 and SOX2; (ii) at least one of KLF4 and c-MYC; and (iii) NFRKB the method comprising: culturing the hESC in human embryonic stem cell culture medium in the presence of feeder cells to thereby co-express the OCT4, the SOX2, the at least one of KLF4 and c-MYC and the NFRKB in the hESC, wherein pluripotency is maintained in the hESC.

16. The method of claim 15, wherein the one or more retroviral expression vectors encodes NKRFB, OCT4, SOX2, and KLF4.

17. The method of claim 16, wherein the one or more retroviral expression vectors also encodes c-MYC.

18. The method of claim 15, wherein the one or more retroviral expression vectors encodes NKRFB, OCT4, SOX2, and c-MYC.

19. The method of any one of claims 15 to 18, wherein the one or more retroviral expression vectors further encodes PRDM14.

WHAT IS CLAIMED IS:

1. A method of inducing pluripotency in a human somatic cell, the method comprising:

transducing~~culturing~~ the human somatic cell with one or more retroviral expression vectors encoding ~~in the presence of~~ (i) OCT4 and SOX2; (ii) at least one of KLF4 and c-MYC; and (iii) NFRKB to thereby co-express the OCT4, SOX2, the at least one of KLF4 and c-MYC~~PRDM14~~ and the NFRKB in the human somatic cell;

culturing the human somatic cell in human embryonic stem cell culture medium in the presence of feeder cells to produce induced pluripotent stem cells.

~~2. The method of claim 1 wherein said culturing comprises contacting the human somatic cell with the OCT4 and the SOX2, with the at least one of KLF4 and c-MYC and with the at least one of PRDM14 and NFRKB so that the OCT4, the SOX2, the at least one of KLF4 and c-MYC and the at least one of PRDM14 and NFRKB are taken up by the human somatic cell.~~

~~3. The method of claim 1 wherein said culturing comprises expressing the OCT4, the SOX2, the at least one of KLF4 and c-MYC and the at least one of PRDM14 and NFRKB in the human somatic cell.~~

~~4. The method of claim 3 wherein each of the OCT4, the SOX2, the at least one of KLF4 and c-MYC and the at least one of PRDM14 and NFRKB are expressed from an expression vector.~~

~~5. The method of claim 4 wherein each of the OCT4, the SOX2, the at least one of KLF4 and c-MYC and the at least one of PRDM14 and NFRKB are expressed from a viral vector.~~

~~6.~~2. The method of ~~any one of~~ claims 1, ~~and 3 to 5~~ wherein the one or more retroviral expression vectors encodes NFRKB, ~~PRDM14 is expressed in the human somatic cell together with~~ OCT4, SOX2 and KLF4.

~~7.~~3. The method of claim ~~6~~ 2, wherein the one or more retroviral expression vectors also encodes c-MYC ~~is also expressed in the human somatic cell~~.

~~8.~~4. The method of ~~any one of~~ claims 1, ~~and 3 to 5~~ wherein the one or more retroviral expression vectors encodes~~PRDM14 is expressed in the human somatic cell together with~~ NFRKB, OCT4, SOX2 and c-MYC.

~~9. The method of any one of claims 1 and 3 to 5 wherein NFRKB is expressed in the human somatic cell together with OCT4, SOX2 and KLF4.~~

~~10. The method of claim 9 wherein c-MYC is also expressed in the human somatic cell.~~

~~11. The method of any one of claims 1 and 3 to 5 wherein NFRKB is expressed in the human somatic cell together with OCT4, SOX2 and c-MYC.~~

~~12. The method of any one of claims 1 to 11 wherein the human somatic cell is partially differentiated prior to said culturing.~~

~~13.~~5. The method of any one of claims 1 to ~~11~~ 4, wherein the human somatic cell is fully differentiated prior to said culturing.

~~14.~~6. The method of any one of claims 1 to ~~13~~ 4, wherein the human somatic cell is a human fibroblast prior to said culturing.

7. The method of any one of claims 1 to 6, wherein the one or more expression vectors further encodes PRDM14.

~~15.~~8. An isolated human somatic cell comprising one or more retroviral expression vectors encoding (i) OCT4 and SOX2; (ii) at least one of KLF4 and c-MYC; and (iii) ~~at least one of PRDM14 and~~ NFRKB.

~~16.~~9. The isolated human somatic cell of claim ~~15~~ 8, wherein the one or more retroviral expression vectors encodes ~~that expresses~~ OCT4, SOX2, KLF4 and ~~at least one of PRDM14 and~~ NFRKB.

~~17.~~10. The isolated human somatic cell of claim ~~15~~ 8, wherein the one or more retroviral expression vectors encodes ~~that expresses~~ OCT4, SOX2, c-MYC and ~~at least one of PRDM14 and~~ NFRKB.

~~18.~~11. The isolated human somatic cell of claim ~~16~~ 9, wherein the one or more retroviral expression vectors also encodes ~~that further expresses~~ c-MYC.

~~19.~~12. The isolated human somatic cell of any one of claims ~~15~~ 8 to ~~18~~ 11, in which pluripotency has been induced.

~~20.~~13. The isolated human somatic cell of any one of claims ~~15~~ 8 to ~~19~~ 11, ~~that~~ wherein said isolated human somatic cell is a fibroblast.

~~21.~~14. The isolated human somatic cell of any one of claims ~~15~~8 to 13, wherein the ~~comprising~~ one or more expression vectors further encodesing ~~(i) the OCT4 and SOX2; (ii) the at least one of KLF4 and c-MYC; and (iii) the at least one of~~ PRDM14 ~~and NFRKB~~.

~~22. The human somatic cell of claim 21 that is a fibroblast.~~

~~23.~~15. A method of maintaining pluripotency of a human embryonic stem cell (hESC) ~~comprising~~ transducing with one or more retroviral expression vectors encoding ~~culturing the hESC in the presence of~~ (i) OCT4 and SOX2; (ii) at least one of KLF4 and c-MYC; and (iii) ~~at least one of PRDM14 and~~ NFRKB the method comprising: culturing the hESC in human embryonic stem cell culture medium in the presence of feeder cells to thereby co-express the OCT4, the SOX2, the at least one of KLF4 and c-MYC and the NFRKB in the hESC, wherein pluripotency is maintained in the hESC.

~~24.~~16. The method of claim ~~23~~ 15, wherein the one or more retroviral expression vectors encodes ~~said culturing comprises contacting the hESC with the~~ NKRFB, OCT4, ~~and the~~ SOX2, ~~with the at least one of~~and KLF4 ~~and c-MYC and with the at least one of PRDM14 and NFRKB so that the OCT4, the SOX2, the at least one of KLF4 and c-MYC and the at least one of PRDM14 and NFRKB are taken up by the hESC~~.

~~25.~~17. The method of claim ~~23~~ 16, wherein the one or more retroviral expression vectors also encodes ~~said culturing comprises expressing the~~

~~OCT4, the SOX2, the at least one of KLF4 and~~ c-MYC ~~and the at least one of PRDM14 and NFRKB in the hESC~~.

~~26.~~18. The method of claim ~~25~~ 15, wherein the one or more retroviral expression vectors encodes ~~each of the~~ NKRFB, OCT4, ~~the~~ SOX2, ~~the at least one of KLF4~~ and c-MYC ~~and the at least one of PRDM14 and NFRKB are expressed from an expression vector~~.

~~27.~~19. The method of any one of claims ~~26~~15 to 18, wherein the one or more retroviral expression vectors further encodes ~~each of the OCT4, the SOX2, the at least one of KLF4 and c-MYC and the at least one of~~ PRDM14 ~~and NFRKB are expressed from a viral vector~~.