WHAT IS CLAIMED IS:

1. A Sox7 protein comprising a sequence having at least 80% sequence identity with the sequence as set forth in SEQ ID NO: 40 or 41, or a Sox17 protein comprising a sequence having at least 80% sequence identity with the sequence as set forth in SEQ ID NO: 42 or 43, the Sox7 or Sox17 protein further comprising an E to K mutation of the glutamic acid located at amino acid 99 in the amino acid sequence encoding the Oct4 protein contact interface of the Sox7 protein or of the glutamic acid located at amino acid 122 in the amino acid sequence encoding the Oct4 protein contact interface of the Sox17 protein, the Sox7 or Sox17 protein comprising the mutation being capable of inducing conversion of a non-pluripotent cell to a pluripotent cell together with Oct4 and at least one of c-myc and Klf4.

2. A Sox7 or Sox17 protein according to claim 1 comprising an E to K mutation in the amino acid sequence LSQKRPYVDEAERLRLQHMQD of the Sox7 protein to result in the sequence LSQKRPYVDEAKRLRLQHMQD, or in the amino acid sequence LAEKRPFVEEAERLRVQHMQD of the Sox17 protein to result in the sequence LAEKRPFVEEAKRLRVQHMQD.

3. A nucleic acid molecule encoding the Sox protein of claim 1 or claim 2.

4. A non-pluripotent cell or an induced pluripotent cell expressing the Sox protein of claim 1 or claim 2.

5. A non-pluripotent cell or an induced pluripotent cell comprising the nucleic acid molecule of claim 3.

6. An *in vitro* method of inducing conversion of a non-pluripotent cell to a pluripotent cell, the method comprising culturing the non-pluripotent cell in the presence of i) the Sox protein of claim 1 or claim 2; ii) Oct4; and iii) at least one of c-myc and Klf4 and in conditions suitable for growth of embryonic stem cells.

7. An *in vitro* method of inducing conversion of a non-pluripotent cell to a pluripotent cell, the method comprising co-expressing in the non-pluripotent cell i) the Sox protein of claim 1 or claim 2; ii) Oct4; and iii) at least one of c-myc and Klf4 from one or more expression vectors and culturing the non-pluripotent cell in conditions suitable for growth of embryonic stem cells.

8. The method of claim 6 or claim 7 wherein the non-pluripotent cell is a fibroblast or a mesenchymal stem cell.

9. The method of any one of claims 6 to 8 wherein the non-pluripotent cell is a human cell.

10. The method of any one of claims 6 to 9 wherein the non-pluripotent cell is a partially differentiated cell.

11. The method of any one of claims 6 to 9 wherein the non-pluripotent cell is a fully differentiated cell.

WHAT IS CLAIMED IS:

1. A mutant Sox protein comprising an amino acid sequence encoding a high mobility group domain of a Sox2 protein and a C-terminal activation domain of a Sox7 protein or a Sox17 protein.

2. The mutant Sox protein of claim 1 wherein the C-terminal activation domain is the C-terminal activation domain of a Sox7 protein.

3. The mutant Sox protein of claim 1 wherein the C-terminal activation domain is the C-terminal activation domain of a Sox17 protein.

4. A nucleic acid molecule encoding the mutant Sox protein of any one of claims 1 to 3.

5. A cell expressing the mutant Sox protein of any one of claims 1 to 3.

6. A cell comprising the nucleic acid molecule of claim 4.

7. A method of inducing conversion of a non-pluripotent cell to a pluripotent cell, the method comprising culturing the non-pluripotent cell in the presence of i) the mutant Sox protein of any one of claims 1 to 3; ii) Oct4; and iii) at least one of c-myc and Klf4 and in conditions suitable for growth of embryonic stem cells.

8. A method of inducing conversion of a non-pluripotent cell to a pluripotent cell, the method comprising co-expressing in the non-pluripotent cell i) the mutant Sox protein of any one of claims 1 to 3; ii) Oct4; and iii) at least one of c-myc and Klf4 from one or more expression vectors and culturing the non-pluripotent cell in conditions suitable for growth of embryonic stem cells.

9. The method of claim 7 or 8 wherein the non-pluripotent cell is a human cell.

10. The method of any one of claims 7 to 9 wherein the non-pluripotent cell is a fibroblast or a mesenchymal stem cell.

11. The method of any one of claims 7 to 9 wherein the non-pluripotent cell is a partially differentiated cell.

12. The method of any one of claims 7 to 9 wherein the non-pluripotent cell is fully differentiated cell.

13. The method of claim 7 or 8 wherein the non-pluripotent cell is an embryonic fibroblast.

14. The method of claim 7 or 8 wherein the non-pluripotent cell is an adipose-tissue derived mesenchymal stem cell.