

Claims

1. A porcine, ovine or canine induced pluripotent stem cell (iPSC), wherein the iPSC expresses one or more or all of the genes selected from LMNA, HTRA1,
5 PHLDA1, FGF1 and GASK1B.
2. A porcine, ovine or canine iPSC according to claim 1, wherein the iPSC expresses all of LMNA, HTRA1, PHLDA1, FGF1 and GASK1B.
- 10 3. A porcine, ovine or canine iPSC according to claim 1 or 2, derived from a neural stem cell (NSC).
4. A porcine iPSC according to any of claims 1 to 3.
- 15 5. An ovine iPSC according to any of claims 1 to 3.
6. A porcine, ovine or canine iPSC according to any preceding claim, wherein the iPSC additionally expresses all of NANOG, REX1, SSEA-3 and SSEA-4.
- 20 7. A population of porcine, ovine or canine iPSCs, wherein at least 50% of the iPSCs express all of the genes selected from LMNA, HTRA1, PHLDA1, FGF1 and GASK1B.
8. A population of porcine, ovine or canine iPSCs according to claim 7, wherein
25 at least 90% of the iPSCs express one or more or all of the genes selected from LMNA, HTRA1, PHLDA1, FGF1 and GASK1B.
9. A population of porcine, ovine or canine iPSCs according to either one of claims 7 or 8, wherein at least 95% of the iPSCs express all of the genes selected
30 from LMNA, HTRA1, PHLDA1, FGF1 and GASK1B.
10. A population of porcine, ovine or canine iPSCs according to any one of claims 7-9, derived from neural stem cells (NSCs).

11. A method of inducing pluripotency, comprising culturing porcine, ovine or canine neural stem cells (NSCs) in the presence of non-integrating vectors that express one or more reprogramming factors.

5 12. A method according to claim 11, wherein the reprogramming factors are selected from two or more or all of Oct4, Sox2, cMyc and Klf4.

13. A method according to either of claims 11 or 12, wherein the reprogramming factors are Oct4 and cMyc.

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14. A method according to any of claims 11-13, wherein the vectors are Sendai viral vectors.

15 15. A method according to any of claims 11 to 14, for producing porcine, ovine or canine iPSCs that express all of the genes selected from LMNA, HTRA1, PHLDA1, FGF1 and GASK1B.