What is claimed is:

1. Use of a kidney and a porcine hematopoietic stem cell (HSC) in the manufacture of a medicament ~~A method~~ for preventing or reducing the severity of proteinuria in a kidney transplant recipient, wherein ~~the method comprises:~~

~~(a) transplanting into the recipient a kidney, wherein the kidney is obtained from an alpha-1,3 galactosyltransferase-deficient miniature swine and~~ glomeruli of the kidney express human CD47 at levels sufficient to prevent or reduce the severity of proteinuria in the recipient~~; and~~,

~~(b) transplanting into the recipient porcine hematopoietic stem cells, wherein~~ the porcine HSC ~~hematopoietic stem cells~~ expresses human CD47, and the kidney and the porcine HSC are obtained from an alpha-1,3 galactosyltransferase-deficient miniature swine.

2. The use~~method~~ of claim 1, wherein the glomeruli of the kidney express human CD47 at a level higher than the level of human CD47 expression in the tubules of the kidney.

3. The use~~method~~ of claim 2, wherein the glomeruli of the kidney express human CD47 at a level 2 times to 10 times higher than the level of human CD47 expression in the tubules of the kidney.

4. The use~~method~~ of any one of claims 1 to 3, wherein the alpha-1,3 galactosyltransferase-deficient miniature swine is a MHC-inbred Columbia/Sachs miniature swine.

5. The use~~method~~ of any one of claims 1 to 4, wherein the level of human CD47 expression is measured by real-time polymerase chain reaction.

6. The use~~method~~ of any one of claims 1 to 5, wherein the recipient is a mammal.

7. The use~~method~~ of claim 6, wherein the recipient is a human.

8. The use~~method~~ of any one of claims 1 to 7, wherein the porcine ~~hematopoietic stem cells~~HSC is~~are~~ obtained from bone marrow, peripheral blood, umbilical cord blood, or fetal liver cells.

9. The use~~method~~ of any one of claims 1 to 8, wherein the human CD47 is expressed under the same regulatory elements as the endogenous porcine CD47.

10. The use ~~method~~ of any one of claims 1 to 9, wherein the human CD47 replaces an endogenous porcine CD47 in the alpha-1,3 galactosyltransferase-deficient miniature swine.

11. The use~~method~~ of any one of claims 1 to 10, wherein the human CD47 is expressed under a glomerulus-specific promoter.

12. The use~~method~~ of claim 11, wherein the glomerulus-specific promoter is nephrin.

13. The use~~method~~ of any one of claim~~s~~ 1 to 12, wherein the proteinuria is renal proteinuria.

14. The use~~method~~ of any one of claims 1 to 13, wherein the proteinuria is reduced to less than 3 g per 24 hours.

15. The use~~method~~ of any one of claims 1 to 13, wherein the proteinuria is reduced to 500 mg per 24 hours.

16. The use~~method~~ of any one of claims 1 to 13, wherein the proteinuria is reduced to 300 mg per 24 hours.

17. The use~~method~~ of any one of claims 1 to 13, wherein the proteinuria is reduced to 150 mg per 24 hours.

18. The use ~~method~~ of any one of claims 1 to 17, wherein the proteinuria resolves within two weeks of the transplant.

19. The use ~~method~~ of any one of claims 1 to 17, wherein the proteinuria resolves within one month of the transplant.

20. The use~~method~~ of any one of claims 1 to 17, wherein the proteinuria resolves within two months of the transplant.

21. The use~~method~~ of any one of claims 1 to 17, wherein the proteinuria resolves within four months of the transplant.

22. The use~~method~~ of any one of claims 1 to 21, wherein the kidney is a thymokidney.

23. A kidney isolated from a miniature swine, wherein the glomeruli of the kidney express human CD47 at a level higher than the level of human CD47 expression in the tubules of the kidney.

24. The kidney of claim 23, wherein the glomeruli of the kidney express human CD47 at a level 2 times to 10 times higher than the level of human CD47 expression in the tubules of the kidney.

25. The kidney of claim 23 or 24, wherein the level of human CD47 expression is measured by real-time polymerase chain reaction.

26. The kidney of any one of claims 23 to 25, wherein the human CD47 is expressed under the same regulatory elements as the endogenous porcine CD47.

27. The kidney of any one of claims 23 to 26, wherein the human CD47 is expressed under a glomerulus-specific promoter.

28. The kidney of claim 27, wherein the glomerulus-specific promoter is nephrin.

29. The kidney of any one of claims 23 to 28, wherein the kidney is a thymokidney.

30. The kidney of any one of claims 23 to 29, wherein the miniature swine is an alpha-1,3 galactosyltransferase-deficient miniature swine.

31. The kidney of claim 30, wherein the alpha-1,3 galactosyltransferase-deficient miniature swine is a MHC-inbred Columbia/Sachs miniature swine.

~~32. A method of transplanting a kidney from a miniature swine into a human recipient, wherein the method comprises:~~

~~(a) transplanting bone marrow from a first miniature swine to the recipient via intra-bone transplantation; and~~

~~(b) transplanting a kidney from a second miniature swine to the recipient.~~

~~33. The method of claim 32, wherein said second step of transplanting a kidney from a second miniature swine is carried out at least 28 days after first step of transplanting bone marrow from a first miniature swine.~~

~~34. The method of claim 32 or 33, wherein the bone marrow from the first miniature swine expresses human CD47.~~

~~35. The method of any one of claims 32 to 34, wherein the kidney from the second miniature swine expresses human CD47.~~

~~36. The method of any one of claim 32 to 35, wherein the bone marrow from the first miniature swine and the kidney from the second miniature swine express human CD47.~~

~~37. The method of any one of claims 34 to 36, wherein the human CD47 is expressed under the same regulatory elements as the endogenous porcine CD47.~~

~~38. The method of any one of claims 34 to 37, wherein the human CD47 is expressed under a glomerulus-specific promoter.~~

~~39. The method of claim 38, wherein the glomerulus-specific promoter is nephrin.~~

~~40. The method of any one of claims 32 to 39, wherein the bone marrow and the kidney are from the same miniature swine.~~

~~41. The method of any one of claims 32 to 40, wherein the first miniature swine and the second miniature swine are from the same, highly inbred herd of miniature swine.~~

~~42. The method of any one of claims 32 to 41, wherein the first miniature swine and the second miniature swine are alpha-1,3 galactosyltransferase-deficient miniature swine.~~

~~43. The method of claim 42, wherein the alpha-1,3 galactosyltransferase-deficient miniature swine are MHC-inbred Columbia/Sachs miniature swine.~~

~~44. The method of any one of claims 32 to 43, wherein the first miniature swine and the second miniature swine are genetically matched miniature swine.~~

~~45. The method of claim 44, wherein the first and the second miniature swine are MHC matched.~~

~~46. The method of any one of claims 32 to 43, further comprising administration of one or more additional treatments to the recipient.~~

~~47. The method of claim 46, wherein the one or more additional treatment is selected from the group comprising total body irradiation, thymic irradiation, rituximab, anti-thymocyte globulin (ATG), tacrolimus, mycophenolate mofetil (MMF), anti-CD154 antibodies, cobra venom factor (CVF), heparin, prostacyclin, recombinant porcine cytokines, porcine stem cell factor (pCSF), porcine interleukin-3 (pIL-3), ganciclovir, methylprednisolone, anti-IL6 receptor antibodies and anti-CD40 antibodies.~~

~~48. The method of any one of claims 32 to 47, further comprising transplanting islet of Langerhans cells from a miniature swine to the recipient.~~

~~49.~~32. A xenograft from a non-human species, wherein the xenograft comprises:

(a) a kidney; and

(b) islet of Langerhans cells,

wherein the kidney comprises glomeruli that express human CD47 at a level higher than the level of human CD47 expression in the tubules of the kidney.

~~50.~~33. The xenograft of claim 32~~49~~, wherein the glomeruli of the kidney express human CD47 at a level 2 times to 10 times higher than the level of human CD47 expression in the tubules of the kidney.

~~51.~~34. The xenograft of claims 32~~49~~ or 33~~50~~, wherein the level of human CD47 expression is measured by real-time polymerase chain reaction.

~~52.~~35. The xenograft of any one of claims 33~~50~~ to 34~~51~~, wherein the human CD47 is expressed under the same regulatory elements as the endogenous porcine CD47.

~~53.~~36. The xenograft of any one of claims 32~~49~~ to 35~~52~~, wherein the human CD47 is expressed under a glomerulus-specific promoter.

~~54.~~37. The xenograft of claim 36~~53~~, wherein the glomerulus-specific promoter is nephrin.

~~55.~~38. The xenograft of any one of claims 32~~49~~ to 37~~54~~, wherein the kidney is a thymokidney.