CLAIMS

1. An isolated and recombinant, fully or partially B-domain deleted porcine factor VIII (FVIII) variant, the FVIII variant being devoid of an amino acid sequence corresponding to amino acids 716 to 742 of porcine factor VIII as depicted in Figure 2 or amino acids 714 to 740 of SEQ ID NO: 7.

2. The FVIII variant according to claim 1, comprising a sequence being at least 90% identical to SEQ ID NO: 1, the variant being devoid of the amino acid sequence corresponding to amino acids 716 to 742 of porcine factor VIII as depicted in Figure 2 or amino acids 714 to 740 of SEQ ID NO: 7.

3. The FVIII variant according to claim 2, wherein said variant shares at least 95, 96, 97, 98, 99, 99.5, 99.6, 99.7, 99.8 or 99.9% identity to SEQ ID NO:1.

4. The FVIII variant according to claim 3, wherein said variant shares 99.5, 99.6, 99.7, 99.8 or 99.9% identity to SEQ ID NO:1.

5. The FVIII variant according to claim 4, wherein said variant is SEQ ID NO:1.

6. An isolated and recombinant, fully or partially B-domain deleted factor VIII (FVIII) variant, the FVIII variant being devoid of an amino acid sequence corresponding to amino acids 716 to 742 of human factor VIII as depicted in Figure 2 or amino acids 714 to 740 of SEQ ID NO: 8.

7. The FVIII variant according to claim 6, comprising a sequence being at least 90% identical to SEQ ID NO: 1, the variant being devoid of the amino acid sequence corresponding to amino acids 716 to 742 of human factor VIII as depicted in Figure 2 or amino acids 714 to 740 of SEQ ID NO: 8.

8. The FVIII variant according to claim 7, wherein said variant shares at least 95, 96, 97, 98, 99, 99.5, 99.6, 99.7, 99.8 or 99.9% identity to SEQ ID NO:2.

9. The FVIII variant according to claim 8, wherein said variant shares 99.5, 99.6, 99.7, 99.8 or 99.9% identity to SEQ ID NO:2.

10. The FVIII variant according to claim 9, wherein said variant is SEQ ID NO:2.

11. The FVIII variant according to any one of claims 1-10, wherein the FVIII variant is partially B-domain deleted and the remaining portion of the B-domain is selected from a sequence consisting of SEQ ID NO: 4 or SEQ ID NO:5.

12. A polynucleotide encoding a polypeptide according any one of claims 1-10.

13. An expression vector comprising a polynucleotide according to claim 12.

14. A mammalian cell comprising an expression vector according to claim 13.

15. A method for producing a FVIII variant comprising the steps of :

a. Culturing a mammalian cell according to claim 14; and

b. Isolating from the mammalian cell the FVIII variant.

16. The method according to claim 15, further comprising the step of

c. Formulating the factor VIII variant together with appropriate excipients into a pharmaceutical composition.

17. A pharmaceutical composition comprising a factor VIII variant according to any one of claims 1 to 10.

18. Use of a FVIII variant according to any one of claims 1 to 10 in the preparation of a medicament for treating hemophilia in a patient in need thereof.

19. The use according to claim 18, wherein said hemophilia is hemophilia A.

20. The use according to claim 18, wherein said hemophilia is acquired hemophilia.

21. The use according to any one of claims 18 to 20, wherein said patient has developed human FVIII antibodies.

22. The use according to any one of claims 18 to 21, wherein the factor VIII is administered in an amount of no more than 200 µg/dose or 150 µg/dose or 140 µg/dose.

23. A FVIII variant according to any one of claims 1 to 10 for use in medicine.

24. A FVIII variant according to any one of claims 1 to 10 for use in treating hemophilia.

25. The FVIII variant according to claim 24, wherein said hemophilia is hemophilia A.

26. The FVIII variant according to claim 24, wherein said hemophilia is acquired hemophilia.

27. The FVIII variant according to any one of claims 24 to 26, wherein said patient has developed human FVIII antibodies.

28. The FVIII variant according to any one of claims 24 to 27, wherein the factor VIII variant is administered in an amount of no more than 200 µg/dose or 150 µg/dose or 140 µg/dose.

CLAIMS

1. An isolated and recombinant, fully or partially B-domain deleted porcine factor VIII (FVIII) variant, the FVIII variant being devoid of an amino acid sequence corresponding to amino acids 714 to 740 of SEQ ID NO: 7.

2. The FVIII variant according to claim 1, comprising a sequence being at least 90% identical to SEQ ID NO: 1, the variant being devoid of the amino acid sequence corresponding to amino acids 714 to 740 of SEQ ID NO: 7.

3. The FVIII variant according to claim 2, wherein said variant shares at least 95, 96, 97, 98, 99, 99.5, 99.6, 99.7, 99.8 or 99.9% identity to SEQ ID NO:1.

4. The FVIII variant according to claim 3, wherein said variant shares 99.5, 99.6, 99.7, 99.8 or 99.9% identity to SEQ ID NO: 1.

5. The FVIII variant according to claim 4, wherein said variant is SEQ ID NO:1.

6. The FVIII variant according to any one of claims 1-5, wherein the FVIII variant is partially B-domain deleted and the remaining portion of the B-domain is a sequence consisting of SEQ ID NO: 4.

7. A polynucleotide encoding a polypeptide according any one of claims 1-5.

8. An expression vector comprising a polynucleotide according to claim 7.

9. A mammalian cell comprising an expression vector according to claim 8.

10. A method for producing a FVIII variant, comprising the steps of:

a. Culturing a mammalian cell according to claim 9; and

b. Isolating from the mammalian cell the FVIII variant.

11. The method according to claim 10, further comprising the step of

c. Formulating the factor VIII variant together with appropriate excipients into a pharmaceutical composition.

12. A pharmaceutical composition comprising a factor VIII variant according to any one of claims 1 to 5.

13. Use of a FVIII variant according to any one of claims 1 to 5 in the preparation of a medicament for treating hemophilia in a patient in need thereof.

14. The use according to claim 13, wherein said hemophilia is hemophilia A.

15. The use according to claim 13, wherein said hemophilia is acquired hemophilia.

16. The use according to any one of claims 13 to 15, wherein said patient has developed human FVIII antibodies.

17. The use according to any one of claims 13 to 16, wherein the factor VIII is administered in an amount of no more than 200 µg/dose or 150 µg/dose or 140 µg/dose.

18. A FVIII variant according to any one of claims 1 to 5 for use in medicine.

19. A FVII variant according to any one of claims 1 to 5 for use in treating hemophilia.

20. The FVIII variant according to claim 19, wherein said hemophilia is hemophilia A.

21. The FVIII variant according to claim 19, wherein said hemophilia is acquired hemophilia.

22. The FVIII variant according to any one of claims 19 to 21, wherein said patient has developed human FVIII antibodies.

23. The FVIII variant according to any one of claims 19 to 22, wherein the factor VIII variant is administered in an amount of no more than 200 µg/dose or 150 µg/dose or 140 µg/dose.