CLAIMS

WHAT IS CLAIMED IS:

1. A chimeric polypeptide comprising

(i) a factor VIII (FVIII) protein comprising the amino acid sequence of SEQ ID NO: 207; and

(ii) a von Willebrand factor (VWF) protein comprising the amino acid sequence of SEQ ID NO: 202,

for use in treating hemophilia A in a human subject in need thereof,

wherein the chimeric polypeptide is to be administered intravenously in multiple doses from 45 IU/kg to 55 IU/kg and the dosing interval is at least 7 days, wherein the FVIII protein is associated with the VWF protein by a covalent bond.

2. The chimeric polypeptide for use according to claim 1, wherein the covalent bond is a disulfide bond.

3. The chimeric polypeptide for use according to claim 1 or 2, wherein each of the multiple doses is 50 IU/kg, and the dosing interval is 7 days.

4. The chimeric polypeptide for use according to any one of claims 1 to 3, wherein the chimeric polypeptide is for prophylactic treatment.

5. The chimeric polypeptide for use according to any one of claims 1 to 4, wherein the subject has severe hemophilia A.

6. The chimeric polypeptide for use according to any one of claims 1 to 4, wherein the subject has less than 1 IU/dl endogenous FVIII.

7. The chimeric polypeptide for use according to any one of claims 1 to 6, wherein the subject has previously received treatment for hemophilia A with any recombinant FVIII, plasma-derived FVIII, or cryoprecipitate for at least 150 exposure days (ED).

8. The chimeric polypeptide for use according to any one of claims 1 to 7, wherein the subject is either

(a) currently on a prophylactic treatment regimen with a marketed FVIII product and has had at least four bleeding episodes in the twelve months prior to administration of the chimeric polypeptide; or

(b) currently on an on-demand treatment regimen with a marketed FVIII product and has had at least twelve bleeding episodes in the twelve months prior to administration of the chimeric polypeptide.

9. The chimeric polypeptide for use according to any one of claims 1 to 8, wherein the subject has a platelet count of at least 100,000 cells/μL.

10. The chimeric polypeptide for use according to any one of claims 1 to 9, wherein the subject is free of other coagulation disorders in addition to hemophilia A.

11. The chimeric polypeptide for use according to any one of claims 1 to 10, wherein the subject does not have a history of developing inhibitors to a FVIII product.

12. The chimeric polypeptide for use according to any one of claims 1 to 11, wherein the multiple doses are to be administered for at least about 1 month, at least about 2 months, at least about 3 months, at least about 4 months, at least about 5 months, at least about 6 months, at least about 12 months, at least about 18 months, at least about 2 years, at least about 3 years, at least about 4 years, at least about 5 years, at least about 10 years, at least about 15 years, at least about 20 years, or for at least about 25 years.

13. A chimeric polypeptide for use in prophylactically treating severe hemophilia Ain a subject in need thereof, wherein the chimeric polypeptide comprises

(i) a FVIII protein comprising the amino acid sequence set forth in SEQ ID NO: 207; and

(ii) a VWF protein comprising the amino acid sequence set forth in SEQ ID NO: 202;

wherein multiple doses of the chimeric polypeptide are to be administered intravenously as a once weekly dose of 50 IU/kg.

14. The chimeric polypeptide for use according to claim 13, wherein the multiple doses are to be administered for at least about 6 months.

15. The chimeric polypeptide for use according to claim 13, wherein the multiple doses are to be administered for at least about 52 weeks.