CLAIMS

1. Use of an AAV5-Factor VIII in the manufacture of a medicament for treating a juvenile subject with Hemophilia A, wherein the medicament comprises a therapeutically effective amount of an AAV5-Factor VIII, and wherein the therapeutically effective amount of the AAV5-Factor VIII is an absolute AAV vector genome concentration, based on a per kilogram (kg) body weight of an adult subject.

2. Use of an AAV5-Factor VIII in the manufacture of a medicament for ameliorating at least one symptom of Hemophilia A in a juvenile subject, wherein the medicament comprises a therapeutically effective amount of the AAV5-Factor VIII, and wherein the therapeutically effective amount of AAV5-Factor VIII is an absolute AAV vector genome concentration, based on a per kilogram (kg) body weight of an adult subject.

3. A composition comprising a therapeutically effective amount of an AAV5-Factor VIII, wherein the therapeutically effective amount of the AAV5-Factor VIII is an absolute AAV vector genome concentration, based on a per kilogram (kg) weight of an adult subject.

4. A composition for treating a juvenile subject with Hemophilia A, comprising a therapeutically effective amount of an AAV5-Factor VIII, wherein the therapeutically effective amount of the AAV5-Factor VIII is an absolute AAV vector genome concentration, based on a per kilogram (kg) body weight of an adult subject.

5. A composition for ameliorating at least one symptom of Hemophilia A in a juvenile subject, comprising a therapeutically effective amount of an AAV5-Factor VIII, wherein the therapeutically effective amount of the AAV5-Factor VIII is an absolute AAV vector genome concentration, based on a per kilogram (kg) body weight of an adult subject

6. Use of a therapeutically effective amount of an AAV5-Factor VIII in the manufacture of a medicament for reducing bleeding time of a bleeding episode in a juvenile subject with Hemophilia A, wherein the medicament comprises a therapeutically effective amount of the

AAV5-Factor VIII, wherein the therapeutically effective amount of the AAV5-Factor VIII is an absolute AAV vector genome concentration, based on a per kilogram (kg) body weight of an adult subject.

7. A composition for reducing bleeding time of a bleeding episode in a juvenile subject with Hemophilia A, comprising a therapeutically effective amount of an AAV5-Factor VIII, wherein the therapeutically effective amount of the AAV5-Factor VIII is an absolute AAV vector genome concentration, based on a per kilogram (kg) body weight of an adult subject.

8. The use of claim 6 or the composition of claim 7, wherein the medicament or composition is for administration at least three weeks prior to the bleeding episode.

9. Use of an AAV5-Factor VIII in the manufacture of a medicament for increasing Factor VIII protein expression in a juvenile subject in need thereof, wherein the medicament comprises a therapeutically effective amount of the AAV5-Factor VIII, and wherein the therapeutically effective amount of the AAV5-Factor VIII is an absolute AAV vector genome concentration, based on a per kilogram (kg) body weight of an adult subject.

10. A composition for increasing Factor VIII protein expression in a juvenile subject in need thereof, comprising a therapeutically effective amount of an AAV5-FVIII, wherein the therapeutically effective amount of the AAV5-Factor VIII is an absolute AAV vector genome concentration, based on a per kilogram (kg) body weight of an adult subject.

11. The use of any one of claims 1, 2, 6, 8, or 9, or the composition of any one of claims 3, 4, 5, 7, 8 or 10, wherein the therapeutically effective amount is from about 1E12 vg/kg to about 1E15 vg/kg, from about 2E13 vg/kg to about 2E16 vg/kg, from about 5E13 vg/kg to about 5E14 vg/kg, from about 1E12 vg/kg to about 2E16 vg/kg, from about 6E12 vg/kg to about 6E13 vg/kg, or from about 6E13 vg/kg to about 6E14 vg/kg of the absolute AAV vector genome concentration.

12. The use of any one of claims 1, 2, 6, 8, 9, or 11, or the composition of any one of claims 3, 4, 5, 7, 8, 10, or 11, wherein the therapeutically effective amount of AAV5-Factor VIII results in an increased and/or stable total amount of circulating Factor VIII in the juvenile subject.

13. The use or composition of claim 12, wherein the therapeutically effective amount of AAV5-Factor VIII results in maintaining therapeutic Factor VIII levels into adulthood.

14. The use or composition of claim 12, wherein the therapeutically effective amount of AAV5-Factor VIII results in an increase in plasma human FVIII level to about or at least about 5%, 10%, 15%, 20%, 25%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, 100%, 110%, 120%, 130%, 140%, or 150% of a normal juvenile subject, wherein the level is the concentration or activity of functional FVIII protein in the plasma.

15. The use of any one of claims 1, 2, 6, 8, 9, 11, or 12-14, the composition of any one of claims 3, 4, 5, 7, 8, 10, 11, or 12-14, wherein Factor VIII of the AAV5-Factor VIII is a modified version of an endogenous Factor VIII.

16. The use, or the composition of claim 15, wherein the modified version of the endogenous Factor VIII is a Factor VIII-SQ.

17. The use of any one of claims 1, 2, 6, 8, 9, or 12-16, or the composition of any one of claims 3, 4, 5, 7, 8 or 10-16, wherein administration of the therapeutically effective amount allows for normal growth in liver weight and body weight of the juvenile subject overtime.

18. The use of any one of claims 1, 2, 6, 8, 9, or 11-17, or the composition of any one of claims 3, 4, 5, 7, 8, 10-17, wherein the juvenile subject is a juvenile human.

19. The use, or the composition of claim 18, wherein the juvenile human is less than 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, or 18 year(s) of age.

20. The use, or the composition of claim 18, wherein the juvenile human is less than 18 years of age.

21. The use, or the composition of claim 18, wherein the juvenile human is less than 5 years of age.

22. The use, or the composition of claim 18, wherein the juvenile human is less than 1 year of age.

23. The composition of any one of claims 3, 4, 5, 7, 8, or 10-22, wherein the composition is formulated for intravenous administration.

24. The use of any one of claims 1, 2, 6, 8, 9, or 11-23, wherein the medicament is formulated for intravenous administration.

25. The use of any one of claims 1, 2, 6, 8, 9, 11-22 or 24 or the composition of any one of claims 3, 4, 5, 7, 8, or 10-23, wherein the medicament or composition is formulated as a pharmaceutical composition comprising:

sodium phosphate dibasic at a concentration of from about 0.1 mg/ml to about 3 mg/ml, sodium phosphate monobasic at a concentration of from about 0.1 mg/ml to about 3 mg/ml, sodium chloride at a concentration of from about 1 mg/ml to about 20 mg/ml, mannitol at a concentration of from about 5 mg/ml to about 40 mg/ml, and poloxamer 188 at a concentration of from about 0.1 mg/ml to about 4 mg/ml.

26. The use of any one of claims 1, 2, 6, 8, 9, 11-22 or 24, or the composition of any one of claims 3, 4, 5, 7, 8, or 10-23, wherein the medicament or composition is formulated as a pharmaceutical composition comprising:

1.38 mg/ml of the sodium phosphate monobasic, 1.42 mg/ml of the sodium phosphate dibasic, 8.18 mg/ml of the sodium chloride, 20 mg/ml of the mannitol and 2.0 mg/ml of the poloxamer 188, wherein the formulation is stable during storage at <65° C for at least 2 weeks.

27. The use of any one of claims 1, 2, 6, 8, 9, 11-22, or 24, or the composition of any one of claims 3, 4, 5, 7, 8, 10-23, 25 or 26, wherein the medicament or composition is for in use in combination prophylactically with a corticosteroid at a concentration ranging from 5 mg/day to 60 mg/day.

28. The use of any one of claims 1, 2, 6, 8, 9, 11-22, or 24, or the composition of any one of claims 3, 4, 5, 7, 8, 10-23, 25 or 26, wherein the medicament or composition is for use in combination therapeutically with a corticosteroid at a concentration ranging from 5 mg/day to 60 mg/day.

29. The use of any one of claims 1, 2, 6, 8, 9, 11-22, or 24, or the composition of any one of claims 3, 4, 5, 7, 8, 10-23, 25 or 26, wherein the medicament or composition is for use in combination with a corticosteroid at a concentration ranging from 5 mg/day to 60 mg/day over a continuous period of at least 3, 4, 5, 6, 7, 8, 9, or 10 weeks or greater.

30. The use of any one of claims 1, 2, 6, 8, 9, 11-22, or 24-29, or the composition of any one of claims 3, 4, 5, 7, 8, 10-23, or 25-29, wherein the level of anti-AAV capsid antibody in a serum sample obtained from the juvenile subject after administration of the medicament or the composition to the juvenile subject is determined.

31. The use, or the composition of claim 30, wherein the medicament or the composition is for use in combination with an effective amount of a corticosteroid if anti-AAV capsid antibody is present in the serum sample.

32. The use of any one of claims 1, 2, 6, 8, 9, 11-22, or 24-31, or the composition of any one of claims 3, 4, 5, 7, 8, 10-23, or 25-31, wherein administration of the medicament or the composition to the juvenile subject results in the expression of at least about 5 IU/dl of functional Factor VIII protein in the juvenile subject.

33. The use of any one of claims 1, 2, 6, 8, 9, 11-22, or 24-32, or the composition of any one of claims 3, 4, 5, 7, 8, 10-23, or 25-32, wherein administration of the medicament or composition

to the juvenile subject results in an increase in functional Factor VIII protein of at least about 1 IU/dl in the juvenile subject.