WHAT IS CLAIMED:

1. A pharmaceutical composition comprising adeno-associated virus (AAV) and:

(i) about 5 mM to about 25 mM buffering agent;

(ii) about 50 mM to about 150 mM pharmaceutically acceptable salt;

(iii) about 0.001% (w/v) to about 0.01% (w/v) non-ionic surfactant; and

(iv) about 1% to about 10% (w/v) sugar, sugar alcohol, or combination thereof.

2. A pharmaceutical composition comprising adeno-associated virus (AAV) and:

(i) about 5 mM to about 25 mM buffering agent;

(ii) less than about 100 mM pharmaceutically acceptable salt;

(iii) about 0.001% (w/v) to about 0.01% (w/v) non-ionic surfactant; and

(iv) about 1% to about 10% (w/v) sugar, sugar alcohol, or combination thereof.

3. The pharmaceutical composition as in any of the preceding claims, wherein the pharmaceutical composition has a pH of about 6.9 to about 7.7, optionally, about 7.0 or about 7.5.

4. The pharmaceutical composition as in any of the preceding claims, wherein the buffering agent is L-histidine.

5. The pharmaceutical composition of claim 4, comprising about 5 mM to about 25 mM or about 10 mM to about 20 mM L-histidine.

6. The pharmaceutical composition as in any of the preceding claims, wherein the pharmaceutically acceptable salt is a sodium salt, ammonium salt or potassium salt.

7. The pharmaceutical composition of claim 6, comprising about 50 mM to about 120 mM sodium chloride.

8. The pharmaceutical composition of claim 6 or claim 7, comprising about 0 mM to about 100 mM, about 0 mM to about 60 mM, 30 mM to about 100 mM, 30 mM to about 80 mM, or 30 mM to about 60 mM sodium chloride.

9. The pharmaceutical composition or any one of claims 6-8, comprising about 60 mM to about 100 mM or about 60 mM to about 80 mM sodium chloride.

10. The pharmaceutical composition as in any of the preceding claims, wherein the non-ionic surfactant is PS80.

11. The pharmaceutical composition of claim 10, comprising about 0.0025% to about 0.0075% (w/v) PS80.

12. The pharmaceutical composition as in any of the preceding claims, wherein the sugar is sucrose, trehalose, or a combination thereof.

13. The pharmaceutical composition of claim 12, comprising about 1% (w/v) to about 5% (w/v) sucrose, trehalose, or a combination thereof.

14. The pharmaceutical composition of claim 12 or claim 13, wherein the trehalose is trehalose dihydrate.

15. The pharmaceutical composition as in any of the preceding claims, further comprising glycine.

16. The pharmaceutical composition of claim 15, comprising about 35 mM to about 65 mM glycine.

17. The pharmaceutical composition as in any of the preceding claims, further comprising mannitol.

18. The pharmaceutical composition of claim 17, comprising about 80 mM to about 120 mM mannitol.

19. The pharmaceutical composition as in any of the preceding claims, which does not comprise dextran.

20. The pharmaceutical composition as in any of the preceding claims, comprising glycine or mannitol.

21. The pharmaceutical composition as in any of claims 10-20, wherein the PS80 is Super Refined™ PS80.

22. A pharmaceutical composition comprising adeno-associated virus (AAV) and

(i) about 20 mM L-histidine,

(ii) about 70 mM sodium chloride,

(iii) about 0.005% (w/v) polysorbate 80 (PS80), and

(iv) about 5% (w/v) sucrose.

23. A pharmaceutical composition comprising adeno-associated virus (AAV) and

(i) about 10 mM L-histidine,

(ii) about 100 mM sodium chloride,

(iii) about 0.005% (w/v) polysorbate 80 (PS80),

(iv) about 5% (w/v) trehalose, and

(v) about 50 mM glycine.

24. A pharmaceutical composition comprising adeno-associated virus (AAV) and

(i) about 10 mM L-histidine,

(ii) less than about 100 mM sodium chloride,

(iii) about 0.005% (w/v) polysorbate 80 (PS80),

(iv) about 5% (w/v) trehalose, and

(v) about 50 mM glycine.

25. The pharmaceutical composition of any one of claims 1-21 or 24, comprising about 80 mM sodium chloride.

26. The pharmaceutical composition of any one of claims 1-21 or 24, comprising about 70 mM sodium chloride.

27. The pharmaceutical composition of any one of claims 1-21 or 24, comprising about 60 mM sodium chloride.

28. The pharmaceutical composition of any one of claims 1-21 or 24, comprising about 50 mM sodium chloride.

29. The pharmaceutical composition of any one of claims 1-21 or 24, comprising about 40 mM sodium chloride.

30. The pharmaceutical composition of any one of claims 1-21 or 24, comprising about 30 mM sodium chloride.

31. The pharmaceutical composition of any one of claims 2-21 or 24, comprising about 0 mM sodium chloride.

32. A pharmaceutical composition comprising adeno-associated virus (AAV) and

(i) about 20 mM L-histidine,

(ii) about 60 mM sodium chloride,

(iii) about 0.005% (w/v) polysorbate 80 (PS80),

(iv) about 35 mM trehalose, and

(v) about 110 mM mannitol.

33. The pharmaceutical composition as in any of the preceding claims, comprising AAV.

34. The pharmaceutical composition as in any of the preceding claims, comprising AAV1, AAV2, AAV3, AAV4, AAV5, AAV6, AAV7, AAV8, AAV9, or AAV10

35. The pharmaceutical composition as in any of the preceding claims, comprising AAV8.

36. The pharmaceutical composition as in any of the preceding claims, wherein the composition is liquid.

37. The pharmaceutical composition as in any of the preceding claims, wherein the composition is lyophilized.

38. The pharmaceutical composition as in any of the preceding claims, wherein the composition is present in a unit dosage container.

39. The pharmaceutical composition of claim 38, wherein the unit dosage container is a vial.

40. The pharmaceutical composition of claim 39, wherein the vial is a sealed glass vial.

41. A method of preparing a pharmaceutical composition comprising adeno-associated virus (AAV), comprising combining the buffering agent, the pharmaceutically acceptable salt, the non-ionic surfactant, and the sugar, sugar alcohol, or combinations thereof of the pharmaceutical composition of claims 1-40, thereby obtaining a pharmaceutical composition comprising AAV.

42. A method of preparing a pharmaceutical composition comprising adeno-associated virus (AAV), comprising combining about 5 mM to about 25 mM L-histidine, about 0 mM to about 150 mM sodium chloride, about 0.001% (w/v) to about 0.01% (w/v) polysorbate 80 (PS80), about 1% (w/v) to about 10% (w/v) sucrose, trehalose, or a combination thereof and AAV, thereby obtaining a pharmaceutical composition comprising AAV.

43. A method of treating a bleeding disorder in a subject, comprising administering to the subject a pharmaceutical composition of any one of claims 1-40 in an amount effective to treat a disorder or disease.

44. The method of claim 43, wherein the disorder or disease is a bleeding disorder.

45. A method of storing a composition comprising AAV, comprising combining the buffering agent, the pharmaceutically acceptable salt, the non-ionic surfactant, and the sugar, sugar alcohol, or combinations thereof of the pharmaceutical composition of claims 1-40.

46. A method of storing a composition comprising AAV, comprising combining about 5 mM to about 25 mM L-histidine, about 0 mM to about 150 mM sodium chloride, about 0.001% (w/v) to about 0.01% (w/v) polysorbate 80 (PS80), about 1% to about 10% (w/v) sucrose, trehalose, or combination thereof and AAV.

47. The method of claim 42 or claim 46, comprising about 50 mM to about 150 mM sodium chloride.

48. The method of claim 42 or claim 46, comprising about 30 mM to less than about 100 mM sodium chloride.

49. The method of any one of claim 42 or 46-48, comprising about 0 mM to less than about 100 mM sodium chloride.

50. The method of any one of claim 42 or 46-49, comprising about 30 mM sodium chloride.

51. The method of any one of claim 42 or 46-49, comprising about 60 mM sodium chloride.

52. The method of any one of claim 42 or 46-49, comprising about 0 mM sodium chloride.