# CLAIMS

WHAT IS CLAIMED IS:

1. Use of a recombinant AAVrh74 viral vector in the manufacture of a medicament for the treatment of muscular dystrophy in a subject, wherein the recombinant AAVrh74 viral vector is to be administered with an enzyme that cleaves immunoglobulin G (IgG).

2. The use of claim 1, wherein the recombinant AAVrh74 viral vector and the enzyme that cleaves IgG are to be administered to the subject concurrently.

3. The use of claim 1, wherein the recombinant AAVrh74 viral vector and the enzyme that cleaves IgG are to be administered to the subject sequentially.

4. The use of claim 1, wherein the subject is determined to have anti-AAVrh74 antibodies.

5. The use of claim 4, wherein the anti-AAVrh74 antibodies are neutralizing anti-AAVrh74 antibodies.

6. The use of claim 4, wherein the anti-AAVrh74 antibodies are non-neutralizing anti-AAVrh74 antibodies.

7. The use of claim 4, wherein the anti-AAVrh74 antibodies are total anti-AAVrh74 antibodies comprising both neutralizing and non-neutralizing antibodies.

8. The use of claim 7, wherein the subject has a titer of anti-AAVrh74 antibodies greater than 1: 400 in a total anti-AAVrh74 antibody ELISA assay.

9. The use of claim 5, wherein the subject has anti-AAVrh74 antibodies in a neutralizing cell assay.

10. The use of any one of claims 1 and 3 to 9, wherein the recombinant AAVrh74 viral vector is to be administered after the enzyme that cleaves IgG is to be administered.

11. The use of claim 10, wherein the subject is to be administered the recombinant AAVrh74 viral vector no more than 54 hours after the enzyme that cleaves IgG is to be administered.

12. The use of claim 10, wherein prior to the recombinant AAVrh74 viral vector is to be administered to the subject, a second dose of the enzyme that cleaves IgG is to be further administered to the subject, if the subject is determined to have anti-AAVrh74 antibodies after a first dose of the enzyme that cleaves IgG is to be administered.

13. The use of claim 12, wherein the anti-AAVrh74 antibodies are neutralizing anti-AAVrh74 antibodies.

14. The use of claim 12, wherein the anti-AAVrh74 antibodies are non-neutralizing anti-AAVrh74 antibodies.

15. The use of claim 12, wherein the anti-AAVrh74 antibodies are total anti-AAVrh74 antibodies comprising both neutralizing and non-neutralizing antibodies.

16. The use of claim 15, wherein the subject has a titer of anti-AAVrh74 antibodies greater than 1: 400 in a total anti-AAVrh74 antibody ELISA assay.

17. The use of claim 13, wherein the subject has anti-AAVrh74 antibodies in a neutralizing cell assay.

18. The use of any one of claims 12 to 17, wherein the recombinant AAVrh74 viral vector is to be administered after the second dose of the enzyme that cleaves IgG is to be administered.

19. The use of claim 18, wherein the subject is to be administered the recombinant AAVrh74 viral vector no more than 54 hours after the second dose of the enzyme that cleaves IgG is to be administered.

20. The use of any one of claims 12 to 19, wherein the subject is to be administered the second dose of the enzyme that cleaves IgG no more than 60 hours after the first dose of the enzyme is to be administered.

21. The use of claim 15, wherein the subject has a titer of anti-AAVrh74 antibodies of between about 1: 1600 and about 1:3200 in a total anti-AAVrh74 antibody ELISA assay.

22. The use of claim 21, wherein prior to the recombinant AAVrh74 viral vector is to be administered to the subject, a third dose of the enzyme that cleaves IgG is to be further administered to the subject.

23. The use of claim 22, wherein the recombinant AAVrh74 viral vector is to be administered after the third dose of the enzyme that cleaves IgG is to be administered.

24. The use of claim 23, wherein the subject is to be administered the recombinant AAVrh74 viral vector no more than 54 hours after the third dose of the enzyme that cleaves IgG is to be administered.

25. The use of any one of claims 22 to 24, wherein the subject is to be administered the third dose of the enzyme that cleaves IgG no more than 60 hours after the second dose of the enzyme is to be administered.

26. Use of a recombinant AAVrh74 viral vector in the manufacture of a medicament for the treatment of muscular dystrophy in a subject, wherein the subject has been previously administered an enzyme that cleaves IgG.

27. The use of claim 26, wherein the subject has been administered an enzyme that cleaves IgG no more than 54 hours before the recombinant AAVrh74 viral vector is to be administered.

28. The use of any one of claims 1 to 27, wherein the muscular dystrophy is selected from Duchene muscular dystrophy (DMD) and limb-girdle muscular dystrophy (LGMD).

29. The use of claim 28, wherein the muscular dystrophy is DMD.

30. The use of any one of claims 1 to 27, wherein the IgG is a human IgG.

31. The use of any one of claims 1 to 27, wherein the enzyme that cleaves IgG specifically targets and cleaves a human IgG selected from IgG1, IgG2, IgG3, IgG4, and any combination thereof.

32. The use of any one of claims 1 to 27, wherein the enzyme that cleaves IgG specifically targets and cleaves human IgG1, human IgG2, human IgG3, and human IgG4.

33. The use of any one of claims 1 to 32, wherein the IgG binds the recombinant AAVrh74 viral vector.

34. The use of any one of claims 1 to 33, wherein the enzyme that cleaves immunoglobulin IgG comprises a protease.

35. The use of claim 34, wherein the protease comprises a cysteine protease or a thiol protease.

36. The use of any one of claims 1 35, wherein the enzyme that cleaves IgG inactivates the IgG.

37. The use of any one of claims 1 to 36, wherein the enzyme that cleaves IgG cleaves human IgG at a hinge region.

38. The use of any one of claims 34 to 37, wherein the protease is isolated or derived from a protease expressed by *Streptococcus pyogenes*, *Streptococcus equi*, or *Mycoplasma canis*.

39. The use of claim 38, wherein the enzyme that cleaves IgG comprises an amino acid sequence having at least about 50%, at least about 55%, at least about 60%, at least about 65%, at least about 70%, at least about 75%, at least about 80%, at least about 85%, at least about 90%, at least about 95%, at least about 96%, at least about 97%, at least about 98%, or at least about 99% sequence identity to SEQ ID NO: 1 or 2.

40. The use of any one of claims 1 to 39, wherein the enzyme that cleaves IgG comprises an amino acid sequence set forth in any of SEQ ID NOs: 3-18.

41. The use of any one of claims 1 to 39, wherein the enzyme that cleaves IgG comprises the amino acid sequence set forth in SEQ ID NO: 1 or 2.

42. The use of any one of claims 1 to 41, wherein the enzyme is Imlifidase.

43. The use of any one of claims 1 to 42, wherein the subject has one or more IgG antibodies that specifically bind a protein present in a recombinant AAVrh74 viral vector.

44. The use of any one of claims 1 to 43, wherein the subject has one or more IgG antibodies that specifically bind a capsid protein of a recombinant AAVrh74 viral vector.

45. The use of claim 43 or 44, wherein the one or more IgG antibodies are AAVrh74 neutralizing antibodies.

46. The use of claim 43 or 44, wherein the one or more IgG antibodies are AAVrh74 non-neutralizing antibodies.

47. The use of claim 43 or 44, wherein the one or more IgG antibodies are total AAVrh74 antibodies comprising both neutralizing and non-neutralizing antibodies.

48. The use of claim 47, wherein the subject has a titer of anti-AAVrh74 antibodies greater than 1: 400 in a total anti-AAVrh74 antibody ELISA assay.

49. The use of claim 45, wherein the subject has anti-AAVrh74 antibodies in a neutralizing cell assay.

50. The use of any one of claims 1 to 49, wherein the subject has been previously administered a recombinant AAVrh74 viral vector.

51. The use of any one of claims 1 to 50, wherein the recombinant AAVrh74 viral vector comprises a genetic cassette encoding a therapeutic molecule.

52. The use of claim 51, wherein the therapeutic molecule comprises a polypeptide, an RNA molecule, or a DNA molecule.

53. The use of claim 51 or 52, wherein the genetic cassette encodes a therapeutic polypeptide selected from a microdystrophin, beta sarcoglycan, alpha sarcoglycan, and any combination thereof.

54. The use of any one of claims 51 to 53, wherein the genetic cassette comprises a nucleic acid sequence having at least about 50%, at least about 55%, at least about 60%, at least about 65%, at least about 70%, at least about 75%, at least about 80%, at least about 85%, at least about 90%, at least about 95%, at least about 96%, at least about 97%, at least about 98%, or at least about 99% sequence identity to SEQ ID NO: 19.

55. The use of claim 54, wherein the genetic cassette comprises the nucleic acid sequence set forth in SEQ ID NO: 19.

56. The use of any one of claims 51 to 53, wherein the genetic cassette comprises a nucleic acid sequence having at least about 50%, at least about 55%, at least about 60%, at least about 65%, at least about 70%, at least about 75%, at least about 80%, at least about 85%, at least about 90%, at least about 95%, at least about 96%, at least about 97%, at least about 98%, or at least about 99% sequence identity to SEQ ID NO: 21.

57. The use of claim 56, wherein the genetic cassette comprises the nucleic acid sequence set forth in SEQ ID NO: 21.

58. The use of any one of claims 51 to 53, wherein the genetic cassette comprises a nucleic acid sequence having at least about 50%, at least about 55%, at least about 60%, at least about 65%, at least about 70%, at least about 75%, at least about 80%, at least about 85%, at least about 90%, at least about 95%, at least about 96%, at least about 97%, at least about 98%, or at least about 99% sequence identity to SEQ ID NO: 23.

59. The use of claim 58, wherein the genetic cassette comprises the nucleic acid sequence set forth in SEQ ID NO: 23.

60. The use of any one of claims 51 to 59, wherein the recombinant AAVrh74 viral vector further comprises a promoter.

61. The use of claim 60, wherein the promoter is a tissue specific promoter.

62. The use of claim 60 or 61, wherein the promoter is selected from an MHCK7 promoter and a tMCK promoter.

63. The use of any one of claims 60 to 62, wherein the promoter comprises a nucleic acid sequence having a least about 50%, at least about 55%, at least about 60%, at least about 65%, at least about 70%, at least about 75%, at least about 80%, at least about 85%, at least about 90%, at least about 95%, at least about 96%, at least about 97%, at least about 98%, or at least about 99% sequence identity to SEQ ID NO: 25 or 26.

64. The use of any one of claims 60 to 62, wherein the promoter comprises the nucleic acid sequence set forth in SEQ ID NO: 25 or 26.

65. The use of any one of claims 51 to 64, wherein the recombinant AAVrh74 viral vector further comprises an intron.

66. The use of claim 65, wherein the intron comprises a nucleic acid sequence having a least about 50%, at least about 55%, at least about 60%, at least about 65%, at least about 70%, at least about 75%, at least about 80%, at least about 85%, at least about 90%, at least about 95%, at least about 96%, at least about 97%, at least about 98%, or at least about 99% sequence identity to a nucleic acid sequence set forth in SEQ ID NOs: 27-29.

67. The use of any one of claims 65 or 66, wherein the intron comprises a nucleic acid sequence set forth in SEQ ID NOs: 27-29.

68. The use of any one of claims 51 to 67, wherein the recombinant AAVrh74 viral vector further comprises a 3’UTR poly(A) tail sequence.

69. The use of claim 68, wherein the 3’UTR poly(A) tail sequence comprises a nucleic acid sequence having a least about 50%, at least about 55%, at least about 60%, at least about 65%, at least about 70%, at least about 75%, at least about 80%, at least about 85%, at least about 90%, at least about 95%, at least about 96%, at least about 97%, at least about 98%, at least about 99%, or 100% sequence identity to the nucleic acid sequence set forth in SEQ ID NO: 30.

70. The use of any one of claims 1 to 69, wherein the AAVrh74 viral vector comprises a nucleic acid sequence having a least about 50%, at least about 55%, at least about 60%, at least about 65%, at least about 70%, at least about 75%, at least about 80%, at least about 85%, at least about 90%, at least about 95%, at least about 96%, at least about 97%, at least about 98%, at least about 99%, or 100% sequence identity to a nucleic acid sequence selected from the nucleic acid sequences set forth in SEQ ID NOs: 20, 22, and 24.

71. The use of any one of claims 42 to 70, wherein Imlifidase is to be administered at a dose of 0.25 mg/kg.

72. The use of claim 70 or 71, wherein the recombinant AAVrh74 viral vector is delandistrogene moxeparvovec, bidridistrogene xeboparvovec, or patidistrogene bexoparvovec.

73. The use of claim 72, wherein delandistrogene moxeparvovec, bidridistrogene xeboparvovec, or patidistrogene bexoparvovec is to be administered at a dose of about $1.33 \times 10^{14}$ vg/kg.

74. The use of any one of claims 42 to 73, wherein Imlifidase is to be administered intravenously.

75. The use of any one of claims 72 to 74, wherein delandistrogene moxeparvovec, bidridistrogene xeboparvovec, or patidistrogene bexoparvovec is to be administered intravenously.

76. The use of any one of claims 72 to 75, wherein the recombinant AAVrh74 is delandistrogene moxeparvovec.

77. A kit for treating a muscular dystrophy in a subject in need thereof, comprising (i) an enzyme that cleaves IgG, (ii) a recombinant AAVrh74 viral vector, and (iii) instructions to use the enzyme and/or the recombinant AAVrh74 viral vector according to the use of any one of claims 1 to 76.

78. A composition comprising a recombinant AAVrh74 viral vector for use in treating a muscular dystrophy in a subject in need thereof, wherein the subject has been previously administered an enzyme that cleaves IgG.