CLAIMS

1. Use of a recombinant adeno-associated virus (rAAV) virion in the manufacture of a medicament for treating macular degeneration in a human subject, wherein the rAAV comprises a polynucleotide encoding a soluble protein comprising Ig-like domain 2 of VEGFR-1 (Flt-1) capable of modulating VEGF activity, wherein the medicament is to be intravitreally delivered to a diseased eye of the subject at a dose of 1×10^{10} to 1×10^{12} vector genomes (vg).

2. Use of a recombinant adeno-associated virus (rAAV) virion in the manufacture of a medicament for treating macular edema in a human subject, wherein the rAAV comprises a polynucleotide encoding a soluble protein comprising Ig-like domain 2 of VEGFR-1 (Flt-1) capable of modulating VEGF activity, wherein the medicament is to be intravitreally delivered to a diseased eye of the subject at a dose of 1×10^{10} to 1×10^{12} vector genomes (vg).

3. A kit for treating macular degeneration or macular edema in a human subject, the kit comprising one or more containers comprising a pharmaceutical composition comprising a recombinant adeno-associated virus (rAAV) virion, wherein the rAAV comprises a polynucleotide encoding a soluble protein comprising Ig-like domain 2 of VEGFR-1 (Flt-1) capable of modulating VEGF activity, wherein the pharmaceutical composition comprises 1×10^{10} to 1×10^{12} vector genomes (vg) for intravitreal delivery to a diseased eye of the subject and an ophthalmologically acceptable vehicle.

4. The kit of claim 3, wherein the kit further comprises delivery devices suitable for intravitreal delivery.

5. The use or kit of any one of claims 1-4, wherein the treatment reduces intraocular pressure, retinal thickness, subretinal fluid, and/or intraretinal fluid.

6. The use of kit of any one of claims 1-5, wherein the composition or medicament comprises 6×10^{10}, 2×10^{11}, or 6×10^{11} vg for delivery to the eye.

7. The use or kit of any one of claims 1-4, wherein the medicament or composition comprises a single rAAV dose for intravitreal injection.

8. The use or kit of any one of claims 3-7, wherein the soluble protein further comprises a multimerization domain derived from an immunoglobulin heavy chain and a linker 5-25 amino acid residues in length linking the Flt-1 domain 2 to the multimerization domain, wherein when the soluble protein is expressed, a multimer of the soluble protein is produced.

9. The use or kit of claim 8, wherein the multimer is a homodimer.

10. The use or kit of claim 8 or 9, wherein the multimerization domain comprises the Fc region of an IgG, or an active fragment thereof.

11. The use or kit of any one of claims 8-10, wherein the multimerization domain comprises a CH3 domain of an IgG, or an active fragment thereof.

12. The use or kit of any one of claims 8-11, wherein the multimerization domain is from an IgG1, an IgG2, an IgG3 or an IgG4.

13. The use or kit of claim 11, wherein the multimerization domain is from the constant region of an IgG1 heavy chain.

14. The use or kit of any one of claims 8-13, wherein the linker is selected from the group consisting of:

gly_9 (SEQ ID NO:1);
glu_9 (SEQ ID NO:2);
ser_9 (SEQ ID NO:3);
$gly_5cyspro_2cys$ (SEQ ID NO:4);
$(gly_4ser)_3$ (SEQ ID NO:5);
SerCysValProLeuMetArgCysGlyGlyCysCysAsn (SEQ ID NO:6);
ProSerCysValProLeuMetArgCysGlyGlyCysCysAsn (SEQ ID NO:7);

GlyAspLeuIleTyrArgAsnGlnLys (SEQ ID NO:8); and

Gly_9ProSerCysValProLeuMetArgCysGlyGlyCysCysAsn (SEQ ID NO:9).

15. The use or kit of any one of claims 8-14, wherein the soluble protein has the formula X-Y-Z, wherein X comprises the IgG-like domain 2 of Flt-1, Y is Gly_9, and Z is an IgG Fc region or an IgG CH3 region.

16. The use or kit of any one of claims 8-15, wherein the multimerization domain is humanized.

17. The use or kit of any one of claims 1-16, wherein the polynucleotide encodes an amino acid sequence selected from the group consisting of

(a) SEQ ID NO:11;

(b) SEQ ID NO:15;

(c) SEQ ID NO:17;

(d) SEQ ID NO:21; and

(e) an active variant of (a), (b), (c) or (d) having at least 90% sequence identity thereto.

18. The use or kit of any one of claims 1, 3-17, wherein the macular degeneration is age-related macular degeneration (AMD).

19. The use or kit of claim 18, wherein the AMD is wet AMD.

20. The use or kit of any one of claims 1-19, wherein the rAAV virion is derived from an AAV serotype selected from AAV1, AAV2, AAV3, AAV4, AAV5, AAV6, AAV7, AAV8, AAV9, AAVrh8, AAVrh8R, AAV10, AAVrh10, AAV11 or AAV12.

21. The use or kit of claim 20, wherein the rAAV virion is derived from AAV2.

22. The use or kit of claim 21, wherein the polynucleotide sequence encodes SEQ ID NO:11.

23. The use or kit of claim 22, wherein the amino acid sequence of the soluble protein consists of amino acids 24-358 of SEQ ID NO:11.

24. The use or kit of any one of claims 1-23, wherein the polynucleotide encoding the solution protein is operably linked to a hybrid chicken β-actin promoter.

25. The use or kit of any one of claims 1-24, wherein the rAAV further comprises AAV2 inverted terminal repeats.

26. The use or kit of any one of claims 1-25, wherein the subject has choroidal neovascularization (CNV) secondary to AMD.