

What is claimed is:

1. An insect cell comprising a first baculoviral vector comprising an expression cassette for Rep78 and a second baculoviral vector comprising an expression cassette for Rep52, wherein (i) the first vector further comprises an expression cassette for VP1 but not VP2 or VP3 and the second vector further comprises an expression cassette for VP2/VP3 but not VP1; or (ii) the first vector further comprises an expression cassette for VP2/VP3 but not VP1 and the second vector further comprises an expression cassette for VP1 but not VP2 or VP3.
2. The insect cell of claim 1, wherein the Rep78 expression cassette and the Rep52 expression cassette comprise identical insect promoters.
3. The insect cells of claim 1 or 2, wherein the Rep78 expression cassette comprises a non-canonical start codon for the Rep78 coding sequence.
4. The insect cell of any one of claims 1-3, wherein the VP1 expression cassette and the VP2/VP3 expression cassette comprise identical insect promoters.
5. The insect cell of any one of claims 1-4, wherein the VP1, VP2, and VP3 proteins comprise amino acid sequences from the same AAV serotype, or from more than one AAV serotype.
6. The insect cell of claim 5, wherein the VP1, VP2, and/or VP3 proteins comprise amino acid sequences from AAV1, AAV2, AAV3, AAV3B, AAV6, and/or AAV9.
7. The insect cell of any one of claims 1-6, wherein the Rep78 and Rep52 proteins are derived from a different AAV serotype from the VP1, VP2, and/or VP3 proteins.
8. The insect cell of any one of claims 1-7, wherein
 - (i) the VP1 comprises SEQ ID NO:1, 7, or 16 with or without the first amino acid residue;

the VP2 comprises amino acid residues 138-736 or 139-736 of SEQ ID NO:1 or 7, or comprises SEQ ID NO:18 with or without the first amino acid residue; and

the VP3 comprises amino acid residues of 204-736 or 205-736 of SEQ ID NO:1 or amino acid residues 203-736 or 204-736 of SEQ ID NO:7, or comprises SEQ ID NO:19 with or without the first amino acid residue; or

(ii) the VP1 comprises SEQ ID NO:24 with or without the first amino acid residue;
the VP2 comprises amino acid residues 138-736 or 139-736 of SEQ ID NO:24;
and

the VP3 comprises amino acid residues of 203-736 or 204-736 of SEQ ID NO:24;
or

(iii) the VP1 comprises SEQ ID NO:25 with or without the first amino acid residue;
the VP2 comprises amino acid residues 138-735 or 139-735 of SEQ ID NO:25;
and

the VP3 comprises 203-735 or 204-735 of SEQ ID NO:25; or
(iv) the VP1 comprises SEQ ID NO:26 with or without the first amino acid residue;
the VP2 comprises amino acid residues 138-736 or 139-736 of SEQ ID NO:26;
and

the VP3 comprises amino acid residues of 203-736 or 204-736 of SEQ ID NO:26;
or

(v) the VP1 comprises SEQ ID NO:27 with or without the first amino acid residue;
the VP2 comprises amino acid residues 138-736 or 139-736 of SEQ ID NO:27;
and

the VP3 comprises amino acid residues of 203-736 or 204-736 of SEQ ID NO:27.

9. The insect cell of any one of claims 1-8, wherein the Rep78, Rep52, VP1, and VP2/VP3 expression cassettes each comprise an insect promoter selected from a polyhedron promoter, an IE-1 promoter, and a p10 promoter.

10. The insect cell of any one of claims 1-9, wherein the first baculoviral vector comprises an expression cassette for VP2/VP3, and the second baculoviral vector comprises an expression cassette for VP1.

11. The insect cell of any one of claims 1-10, wherein one or both of the first and second vectors are stably integrated into the genome of the insect cell.
12. The insect cell of any one of claims 1-11, wherein the cell is an Sf9 or Sf21 cell.
13. The insect cell of any one of claims 1-12, further comprising a coding sequence for a recombinant AAV genome, wherein the recombinant AAV genome comprises
an expression cassette for a transgene of interest that is under the transcriptional control of a mammalian promoter, and
an AAV inverted terminal repeat (ITR) on both termini.
14. The insect cell of claim 13, wherein the coding sequence for the recombinant AAV genome is located on the first or second vector, or is located on a third vector.
15. The insect cell of claim 13 or 14, wherein the transgene of interest encodes a therapeutic protein, selected from a zinc finger protein (ZFP) transcription factor and a protein whose function is lacking or deficient in a genetic disease.
16. The insect cell of claim 13 or 14, wherein the transgene of interest encodes a gene editing protein, selected from a zinc finger nuclease, a ZFP deaminase, a ZFP recombinase, a TALEN, a CRISPR Cas protein, and a CRISPR Cpf protein.
17. A method of producing a recombinant AAV virion, comprising:
providing an insect cell of any one of claims 13-16,
culturing the insect cell under conditions that allow expression of the recombinant AAV genome and packaging of the recombinant AAV genome within an AAV capsid comprising the VP1, VP2, and VP3 proteins, and
isolating the produced recombinant AAV virion from the culture.

18. A composition comprising a recombinant AAV virion produced in the insect cell of any one of claims 13-16 or by the method of claim 17, wherein the ratio of VP1 to VP3 is 1:14.
19. A pharmaceutical composition comprising the composition of claim 18 and a pharmaceutically acceptable carrier.
20. A combination of expression cassettes in any one of claims 1-16.
21. A combination of baculoviral vectors in any one of claims 1-16 wherein the first baculoviral vector comprises an expression cassette for Rep78 and an expression cassette for VP1 but not VP2 or VP3 and the second baculoviral vector comprises an expression cassette for Rep52 and an expression cassette for VP2 and VP3 but not VP1 or the first baculoviral vector comprises an expression cassette for Rep78 and an expression cassette for VP2 and VP3 but not VP1 and the second baculoviral vector comprises an expression cassette for Rep52 and an expression cassette for VP1 but not VP2 or VP3.