# CLAIMS

What is claimed is:

1. An isolated nucleic acid comprising a transgene encoding one or more mature, single-stranded miRNAs, wherein the nucleic acid sequence of the transgene encoding each mature, single-stranded miRNA comprises the sequence set forth in SEQ ID NO: 7, and is flanked by a heterologous miRNA backbone sequence.

2. The isolated nucleic acid of claim 1, wherein each heterologous miRNA backbone sequence is a mir-155 backbone sequence, a mir-30 backbone sequence, or a mir-64 backbone sequence.

3. The isolated nucleic acid of claim 1, wherein the transgene comprises a promoter.

4. The isolated nucleic acid of claim 3, wherein the promoter is a chicken beta-actin (CBA) promoter or a U6 promoter.

5. The isolated nucleic acid of claim 1, wherein the transgene comprises the sequence set forth in SEQ ID NO: 21 or 22.

6. The isolated nucleic acid of claim 1, wherein the transgene is flanked by adeno-associated virus (AAV) inverted terminal repeats (ITRs), or variants thereof.

7. The isolated nucleic acid of claim 6, wherein the ITR variant lacks a functional terminal resolution site (TRS).

8. The isolated nucleic acid of claim 7, wherein the ITR variant lacking a TRS is a ΔTRS ITR.

9. A vector comprising an isolated nucleic acid comprising a transgene encoding one or more mature, single-stranded miRNAs, wherein the nucleic acid sequence of the transgene encoding each mature, single-stranded miRNA comprises the sequence set forth in SEQ ID NO: 7, and is flanked by a heterologous miRNA backbone sequence.

10. The vector of claim 9, wherein the vector is a plasmid.

11. The vector of claim 10, wherein each heterologous miRNA backbone sequence is a mir-155 backbone sequence, a mir-30 backbone sequence, or a mir-64 backbone sequence.

12. The vector of claim 10, wherein the transgene comprises a promoter.

13. The vector of claim 12, wherein the promoter is a chicken beta-actin (CBA) promoter or a U6 promoter.

14. The vector of claim 10, wherein the transgene comprises the sequence set forth in SEQ ID NO: 21 or 22.

15. The vector of claim 10, wherein the transgene is flanked by adeno-associated virus (AAV) inverted terminal repeats (ITRs), or variants thereof.

16. The vector of claim 15, wherein the ITR variant lacks a functional terminal resolution site (TRS).

17. The vector of claim 16, wherein the ITR variant lacking a TRS is a ΔTRS ITR.

18. A recombinant AAV (rAAV) comprising:

(i) a capsid protein; and,

(ii) an isolated nucleic acid comprising a transgene encoding one or more mature, single-stranded miRNAs, wherein the nucleic acid sequence of the transgene encoding each mature, single-stranded miRNA comprises the sequence set forth in SEQ ID NO: 7, and is flanked by a heterologous miRNA backbone sequence.

19. The rAAV of claim 18, wherein the transgene is flanked by full-length AAV ITR sequences.

20. The rAAV of claim 18, wherein the transgene is flanked by a full-length AAV ITR and a ΔTRS ITR.

21. The rAAV of claim 18, wherein the capsid protein is an AAV9 capsid protein.

22. The rAAV of claim 21, wherein the capsid protein comprises the sequence set forth in SEQ ID NO: 20.