CLAIMS:

1. A recombinant herpes simplex virus (HSV) comprising: a deletion in the internal repeat joint region such that the recombinant HSV genome comprises one copy of each of the ICP0, .gamma.34.5, LAT, and ICP4 genes; and at least one copy of a micro-RNA (miR)-124 target sequence inserted into the ICP4 locus of the recombinant HSV genome and at least one copy of a miR-122 target sequence inserted into the ICP27 locus of the recombinant HSV genome, wherein replication of the recombinant HSV is reduced in a first cell compared to replication of the recombinant HSV in a second cell and wherein the endogenous expression of miR-124 or miR-122 in the second cell is reduced compared to the endogenous expression of miR-124 or miR-122 in the first cell.

2. The recombinant HSV of claim 1, wherein the at least one miR-124 target sequence and the at least one miR-122 target sequence are incorporated into the 5' untranslated region (UTR) or 3' UTR of the ICP4 locus or ICP27 locus, respectively.

3. The recombinant HSV of claim 1, wherein two or more miR-124 target sequences are inserted into the ICP4 locus of the recombinant HSV genome.

4. The recombinant HSV of claim 1, wherein two or more miR-122 target sequences are inserted into the ICP27 locus of the recombinant HSV genome.

5. The recombinant HSV of claim 1, further comprising at least one additional miR target sequence incorporated into the ICP4 locus, wherein the additional miR target sequence is a sequence other than a miR-124 or a miR-122 target sequence.

6. The recombinant HSV of claim 1, further comprising at least one additional miR target sequence incorporated into the ICP27 locus, wherein the additional miR target sequence is a sequence other than a miR-124 or a miR-122 target sequence.

7. The recombinant HSV of claim 1, further comprising a heterologous polynucleotide sequence encoding a human IL-12 protein inserted into the recombinant HSV genome between the UL3 and UL4 open reading frames.

8. The recombinant HSV of claim 1, wherein four miR-124 target sequences are inserted into the ICP4 locus of the recombinant HSV genome.

9. The recombinant HSV of claim 1, wherein four miR-122 target sequences are inserted into the ICP27 locus of the recombinant HSV genome.

10. A composition comprising the recombinant HSV of claim 1 and a pharmaceutically-acceptable carrier.

11. A recombinant herpes simplex virus (HSV) comprising: a deletion in the internal repeat joint region such that the recombinant HSV genome comprises one copy of each of the ICP0, .gamma.34.5, LAT, and ICP4 genes; at least one copy of a micro-RNA (miR)-124 target sequence inserted into the ICP4 locus of the recombinant HSV genome and at least one copy of a miR-122 target sequence inserted into the ICP27 locus of the recombinant HSV genome; at least one additional miR target sequence incorporated into the ICP4 locus or the ICP27, wherein the additional miR target sequence is a sequence other than a miR-124 or a miR-122 target sequence; and a heterologous polynucleotide sequence encoding a human IL-12 protein inserted between the UL3 and UL4 open reading frames, wherein replication of the recombinant HSV is reduced in a first cell compared to replication of the recombinant HSV in a second cell and wherein the endogenous expression of miR-124 or miR-122 in the second cell is reduced compared to the endogenous expression of miR-124 or miR-122 in the first cell.

12. A composition comprising the recombinant HSV of claim 11 and a pharmaceutically-acceptable carrier.

13. The recombinant HSV of claim 11, wherein the at least one miR-124 target sequence and the at least one miR-122 target sequence are incorporated into the 5' untranslated region (UTR) or 3' UTR of the ICP4 locus or the ICP27 locus, respectively.

14. The recombinant HSV of claim 11, wherein two or more miR-124 target sequences are inserted into the ICP4 locus of the recombinant HSV genome.

15. The recombinant HSV of claim 11, wherein two or more miR-122 target sequences are inserted into the ICP27 locus of the recombinant HSV genome.

16. The recombinant HSV of claim 11, wherein four miR-124 target sequences are inserted into the ICP4 locus of the recombinant HSV genome.

17. The recombinant HSV of claim 11, wherein four miR-122 target sequences are inserted into the ICP27 locus of the recombinant HSV genome.