What is claimed is:

1. A recombinant virus comprising:

(i) a modified TATA box-based promoter operably linked to a gene, wherein the modified TATA box-based promoter lacks a functional TATA box and permits selective expression of the gene in a hyperproliferative cell; and/or

(ii) a modified CAAT box-based promoter operably linked to a gene, wherein the modified CAAT box-based promoter lacks a functional CAAT box and permits selective expression of the gene in a hyperproliferative cell, wherein the recombinant virus is selected from a recombinant vaccinia virus, adenovirus, adeno-associated virus (AAV), herpes simplex virus 1 (HSV1), myxoma virus, reovirus, poliovirus, vesicular stomatitis virus (VSV), measles virus (MV), and Newcastle disease virus (NDV); the modified TATA box-based promoter is an early gene promoter; the modified CAAT box-based promoter is an early gene promoter; and the modification included in the modified TATA box-based promoter or CAAT box-based promoter does not comprise an addition, of or a substitution with, a separate, functional promoter sequence.

2. The recombinant virus of claim 1, wherein the recombinant virus is a recombinant adenovirus.

3. The recombinant virus of claim 2, wherein the recombinant virus is selected from a type 5 adenovirus and a type 35 adenovirus.

4. The recombinant virus of any one of claims 1-3, wherein the modified TATA box-based promoter is an E1a promoter, E1b promoter, or E4 promoter.

5. The recombinant virus of any one of claims 1-4, wherein the modification included in the modified TATA box-based promoter comprises a deletion of the entire TATA box.

6. The recombinant virus of any one of claims 1-5, wherein the virus comprises a deletion of nucleotides corresponding to 472 to 475 of the Ad5 genome (SEQ ID NO: 8).

7. The recombinant virus of claim 6, wherein the virus comprises a deletion of nucleotides corresponding to 468 to 475 of the Ad5 genome (SEQ ID NO: 8).

8. The recombinant virus of claim 7, wherein the virus comprises a deletion of nucleotides corresponding to 455 to 552 of the Ad5 genome (SEQ ID NO: 8).

9. The recombinant virus of claim 8, wherein the virus comprises a deletion of nucleotides corresponding to 353 to 552 of the Ad5 genome (SEQ ID NO: 8).

10. The recombinant virus of any one of claims 1-9, wherein the virus comprises a polynucleotide deletion that results in the virus comprising the sequence CTAGGACTG (SEQ ID NO: 7), AGTGCCCG (SEQ ID NO: 12) and/or TATTCCCG (SEQ ID NO: 13).

11. The recombinant virus of any one of claims 1-10, wherein the modified CAAT box-based promoter is an E1a promoter, E1b promoter, or E4 promoter.

12. The recombinant virus of any one of claims 1-11, wherein the modification included in the modified CAAT box-based promoter comprises a deletion of the entire CAAT box.

13. The recombinant virus of any one of claims 1-12, wherein the virus comprises a deletion of nucleotides corresponding to -76 to -68 of the E1a promoter.

14. The recombinant virus of any one of claims 1-13, wherein the virus comprises a deletion of nucleotides corresponding to 423 to 431 of the Ad5 genome (SEQ ID NO: 8).

15. The recombinant virus of any one of claims 1-14, wherein the virus comprises a polynucleotide deletion that results in the virus comprising the sequence TTCCGTGGCG (SEQ ID NO: 14).

16. The recombinant virus of any one of claims 1-15, wherein the virus comprises a deletion of nucleotides corresponding to 477 to 484 of the Ad35 genome (SEQ ID NO: 24).

17. The recombinant virus of any one of claims 1-16, further comprising a nucleotide sequence encoding a therapeutic transgene.

18. The recombinant virus of claim 17, wherein the adenovirus comprises an E1b-19K and an E1b-55K start site, and wherein the nucleotide sequence encoding the therapeutic transgene is inserted between the start site of E1b-19K and the start site of E1b-55K.

19. The recombinant virus of any one of claims 1-18, wherein the recombinant virus selectively replicates in a hyperproliferative cell.

20. The recombinant virus of any one of claims 1-19, wherein the recombinant virus selectively has cytolytic activity in a hyperproliferative cell.

21. The recombinant virus of any one of claims 1-20, wherein the recombinant virus selectively expresses E1a and/or E1b in a hyperproliferative cell.

22. The recombinant virus of any one of claims 17-21, wherein the recombinant virus selectively expresses the therapeutic transgene in a hyperproliferative cell.

23. The recombinant virus of any one of claims 1-21, wherein the hyperproliferative cell is a cancer cell, endothelial cell, epidermal cell, fibroblast, and/or immune cell.

24. A pharmaceutical composition comprising the recombinant virus of any one of claims 1-23 and at least one pharmaceutically acceptable carrier or diluent.

25. A method of expressing a therapeutic transgene in a target cell comprising exposing the cell to an effective amount of the recombinant virus of any one of claims 17-23 to express the target transgene.

26. Use of a recombinant virus of any one of claims 1-23 in the manufacture of a medicament for treating cancer.

27. Use of a recombinant virus of any one of claims 1-23 in the manufacture of a medicament for treating hyperproliferative disease.

28. A method of engineering an oncolytic virus, the method comprising modifying a viral TATA box-based promoter operably linked to a gene such that the modified TATA box-based promoter lacks a functional TATA box and permits selective expression of the gene in a hyperproliferative cell and/or modifying a viral CAAT box-based promoter operably linked to a gene such that the modified CAAT box-based promoter lacks a functional CAAT box and permits selective expression of the gene in a hyperproliferative cell, wherein the recombinant virus is selected from a recombinant vaccinia virus, adenovirus, adeno-associated virus (AAV), herpes simplex virus 1 (HSV1), myxoma virus, reovirus, poliovirus, vesicular stomatitis virus (VSV), measles virus (MV), and Newcastle disease virus (NDV); the modified TATA box-based promoter is an early gene promoter; the modified CAAT box-based promoter is an early gene promoter; and the modification included in the modified TATA box-based promoter or CAAT box-based promoter does not comprise an addition, of or a substitution with, a separate, functional promoter sequence.

29. An isolated nucleic acid comprising a nucleotide sequence selected from SEQ ID NO: 3, SEQ ID NO: 15, SEQ ID NO: 16, SEQ ID NO: 17, SEQ ID NO: 20, SEQ ID NO: 21, SEQ ID NO: 22 and SEQ ID NO: 23.

30. A recombinant virus of any one of claims 1-23 for use in treating cancer or hyperproliferative disease.