CLAIMS

1. An adenoviral vector comprising a repressible Major Late Promoter (MLP) and a plurality of adenoviral late genes, wherein the MLP comprises one or more repressor elements which are capable of regulating or controlling transcription of the adenoviral late genes, wherein the repressor elements are ones which are capable of being bound by a repressor protein, and wherein one or more of the repressor elements are inserted downstream of the MLP TATA box.

2. An adenoviral vector comprising:

(a) a plurality of adenoviral early genes, and

(b) a plurality of adenoviral late genes under the control of a Major Late Promoter (MLP), and

(c) a transgene,

wherein the MLP comprises one or more repressor elements which are capable of regulating or controlling transcription of the adenoviral late genes, wherein the repressor elements are ones which are capable of being bound by a repressor protein, and wherein one or more of the repressor elements are inserted downstream of the MLP TATA box.

3. An adenoviral vector as claimed in any one of the preceding claims, wherein the one or more repressor elements are inserted between the MLP TATA box and the +1 position of transcription.

4. An adenoviral vector as claimed in any one of the preceding claims, wherein a gene encoding a repressor protein which is capable of binding to the repressor element is encoded within the adenoviral genome.

5. An adenoviral vector as claimed in claim 4, wherein the repressor protein is transcribed under the control of the MLP.

6. An adenoviral vector as claimed in any one of claims 4 to 5, wherein the repressor protein is the tetracycline repressor, the lactose repressor or the ecdysone repressor, preferably the tetracycline repressor (TetR).

7. An adenoviral vector as claimed in any one of the preceding claims, wherein the repressor element is a tetracycline repressor binding site comprising or consisting of the sequence set forth in SEQ ID NO: 2.

8. An adenoviral vector as claimed in any one of the preceding claims, wherein the nucleotide sequence of the MLP comprises or consists of the sequence set forth in SEQ ID NO: 6 or 7.

9. An adenoviral vector as claimed in any one of the preceding claims, wherein the presence of the repressor element does not affect production of the adenoviral E2B protein.

10. An adenoviral vector as claimed in any one of the preceding claims, wherein the adenoviral vector encodes the adenovirus L4 100K protein and wherein the L4 100K protein is not under control of the MLP.

11. An adenoviral vector as claimed in any one of the preceding claims, wherein a transgene is inserted within one of the adenoviral early regions, preferably within the adenoviral E1 region.

12. An adenoviral vector as claimed in any one of claims 2-11, wherein the transgene comprises a Tripartite Leader (TPL) in its 5'-UTR.

13. An adenoviral vector as claimed in any one of claims 2-12, wherein the transgene encodes a therapeutic polypeptide.

14. An adenoviral vector as claimed in any one of claims 2 to 12, wherein the transgene encodes a virus protein, preferably a protein that is capable of assembly in or outside of a cell to produce a virus-like particle.

15. An adenoviral vector as claimed in 14, wherein the transgene encodes Norovirus VP1 or Hepatitis B HBsAG.

16. An adenoviral vector as claimed in any one of claims 2 to 12, wherein the transgene encodes an AAV Rep polypeptide, an AAV Cap polypeptide, an AAV Rep-Cap polypeptide and/or the transgene encodes a AAV genome.

17. A composition comprising an adenovirus particle comprising an adenoviral vector as claimed in any one of claims 1 to 16, together with one or more physiologically-acceptable carriers, excipients or diluents.

18. A kit comprising an adenoviral vector as claimed in any one of claims 1 to 16, wherein the kit additionally comprises one or more additional components selected from the group consisting of:

(i) a cell line that allows the viral vector to infect the cells and replicate the viruses' genome, wherein the cell line represses the viral vector's MLP and

(ii) one or more DNA plasmids for aiding in the construction of the viral vector.

19. An adenoviral vector as claimed in any one of claims 1-16 comprising the nucleotide sequence of SEQ ID NO: 6 or SEQ ID NO: 7, or nucleotide sequence having at least 90% or 95% sequence identity thereto.

20. A mammalian cell comprising an adenoviral vector as claimed in any one of claims 1 to 16.

21. A mammalian cell as claimed in claim 20, wherein the cell is a HEK293, PerC6 or 911 cell which expresses the adenoviral E1A and E1B proteins.

22. A process for producing a modified mammalian cell, the process comprising the step:

(a) infecting a mammalian cell with an adenoviral vector as claimed in any one of claims 1 to 16,

whereby the mammalian cell then comprises the adenoviral vector.

23. A process as claimed in claim 22, wherein the cell is one which contains an AAV genome integrated into the genome of the cell, preferably wherein the AAV genome comprises left and right AAV ITRs.

24. A process as claimed in claim 23, wherein the adenoviral vector comprises a transgene which encodes an AAV Rep polypeptide, an AAV Cap polypeptide or an AAV Rep-Cap polypeptide.

25. A process for producing a transgene product, the process comprising the steps:

(a) infecting mammalian cells with an adenoviral vector as claimed in any one of claims 1 to 16;

(b) culturing the infected mammalian cells in a culture medium under conditions such that the transgene is expressed; and

(c) isolating or purifying transgene product from the cells or from the cell culture medium.

26. Use of an adenoviral vector as claimed in any one of claims 1 to 16, in the production of a recombinant adeno-associated virus (AAV).

27. A use as claimed in claim 26, wherein one or more transgenes in the adenoviral vector encodes an AAV Rep-Cap polypeptide.

28. A use as claimed in claim 26 or claim 27, wherein one or more of the transgenes encodes an AAV genome, preferably wherein the AAV genome comprises or consists of a 5’ and 3’ ITR sequence from AAV with intervening sequences.

29. A use as claimed in any one of claims 26 to 28, wherein one or more of the transgenes encodes a Rep-Cap polypeptide from an AAV and an AAV genome with ITRs flanking a sequence of interest.