CLAIMS

1. Use of a parenteral formulation of a replication capable oncolytic adenovirus of subgroup B in the manufacture of a medicament for the treatment of cancer by the administration of multiple doses in a single treatment cycle,

in which the total dose given in each administration is in the range of $1x10^{10}$ to $1x10^{14}$ viral particles per dose, and

in which each dose of virus is administered such that the rate of viral particle delivery is in the range of $2x10^{10}$ particles per minute to $6x10^{11}$ particles per minute.

2. Use according to Claim 1, in which the total dose given in each administration is in the range of $1x10^{12}$ to $1x10^{13}$ viral particles per dose, for example the total dose given in each administration is in the range of $3x10^{12}$ to $9x10^{12}$ viral particles per dose, in particular in which the total dose given in each administration is $6x10^{12}$ viral particles per dose.

3. Use according to Claim 1 or 2, in which the period between each dose administration is in the range of 6 hours to 72 hours.

4. Use according to Claim 3, in which the period between each dose administration is 48 hours.

5. Use according to any preceding claim, in which the multiple doses are 2, 3, 4, 5, 6 or 7 doses in a single treatment cycle.

6. Use according to any preceding claim, in which the treatment cycle is a period of 14 days or less.

7. Use according to Claim 6, in which the treatment cycle is a period of 7 or 5 days.

8. Use according to any preceding claim, in which each dose of virus is administered such that the rate of viral particle delivery is in the range of $1x10^{11}$ viral particles per minute to $3x10^{11}$ viral particles per minute, such as $2x10^{11}$ viral particles per minute or $1.67\ x10^{11}$ viral particles per minute, per dose, in particular each dose of virus is administered such that the rate of viral particle delivery is $1.5x10^{11}$ viral particles per minute, per dose.

9. Use according to Claim 8, in which the rate of viral particle delivery is $2x10^{11}$, $1.67\ x10^{11}$ or $1.5x10^{11}$ viral particles per minute, per dose.

10. Use according to any preceding claim, in which 1 x 10^{13} viral particles are administered over a 60 minute period per dose or in which 6x10^{12} viral particles are administered over a 40 minute period per dose.

11. Use according to any preceding claim, in which the plasma level of virus after administration of the second and optionally subsequent doses reaches a level of at least 2x10^{6} viral particles per mL.

12. Use according to Claim 11, in which the plasma level of viral particles is maintained for 15 minutes or greater.

13. Use according to Claim 12, in which the plasma level of viral particles is maintained for 20, 30, 40, 50 or 60 minutes.

14. Use according to any preceding claim, in which the volume of the formulation administered is 100mL or less, for example 30mLs or less, such as about 3mLs or 5mLs.

15. Use according to any preceding claim, in which a first dose is administered on day 1 and the further therapeutic doses are administered every second day thereafter, for example in which the first dose is administered on day 1 and the further therapeutic doses are administered on days 3 and 5.

16. Use according to any preceding claim, in which the adenovirus is a chimeric adenovirus, for example in which the chimeric adenovirus is ColoAd1.

17. Use according to any preceding claim, in which the virus is administered in combination with the administration of any other anti-cancer therapy including a chemotherapeutic agent, an immunotherapeutic agent such as an antibody or fragment thereof, a small molecule inhibitor such as a kinase inhibitor or an mTOR inhibitor, radiotherapy, radio-isotope therapy or any combination thereof.

18. Use according to any preceding claim, in which the virus is administered in combination with the administration of one or more prophylactic agents.

19. Use according to Claim 18, in which the one or more prophylactic agents is selected from the group consisting of an antipyretic, an antiemetic, a steroid and an analgesic.

20. Use according to any preceding claim for the treatment of a solid tumour.

21. Use according to Claim 20, in which the solid tumour is a colorectal malignancy.

22. Use according to any preceding claim in which the first and therapeutic dose is in the range 10^9 to 10^{14} viral particles.

23. Use according to any preceding claim, in which the adenovirus is formulated to at least partially avoid the patient's immune system.

24. Use according to any preceding claim, in which the adenovirus contains a transgene.

25. Use according to any preceding claim, in which the treatment results in the necrosis of the cancer cells accompanied by an increase in plasma cytokine levels.

26. Use of a pharmaceutical formulation comprising ColoAd1 in the manufacture of a medicament for the treatment of cancer by intravenous administration of

a first therapeutic dose on day 1 followed by

a second therapeutic dose on day 3 and

a third therapeutic dose on day 5.

27. Use of a glass or plastic syringe with an internal volume in the range of 3 to 50ml, the syringe containing a parenteral formulation comprising $1x10^{10}$ to $6x10^{12}$ viral particles of a replication capable oncolytic adenovirus of subgroup B, in which the formulation is sterile and was filled into the syringe under aseptic conditions in the manufacture of a medicament for use in the treatment of cancer.

CLAIMS

1. Use of a parenteral formulation of a replication capable oncolytic adenovirus of subgroup B in the manufacture of a medicament for the treatment of cancer in a human patient by the administration of multiple doses in a single treatment cycle,

in which the total dose given in each administration is in the range of $1x10^{10}$ to $1x10^{14}$ viral particles per dose, and

in which each dose of virus is administered such that the rate of viral particle delivery is in the range of $2x10^{10}$ particles per minute to $6x10^{11}$ particles per minute.

2. Use according to Claim 1, in which the total dose given in each administration is in the range of $1x10^{12}$ to $1x10^{13}$ viral particles per dose, for example the total dose given in each administration is in the range of $3x10^{12}$ to $9x10^{12}$ viral particles per dose, in particular in which the total dose given in each administration is $6x10^{12}$ viral particles per dose.

3. Use according to Claim 1 or 2, in which the period between each dose administration is in the range of 6 hours to 72 hours.

4. Use according to Claim 3, in which the period between each dose administration is 48 hours.

5. Use according to any preceding claim, in which the multiple doses are 2, 3, 4, 5, 6 or 7 doses in a single treatment cycle.

6. Use according to any preceding claim, in which the treatment cycle is a period of 14 days or less.

7. Use according to Claim 6, in which the treatment cycle is a period of 7 or 5 days.

8. Use according to any preceding claim, in which each dose of virus is administered such that the rate of viral particle delivery is in the range of $1x10^{11}$ viral particles per minute to $3x10^{11}$ viral particles per minute, such as $2x10^{11}$ viral particles per minute or $1.67\ x10^{11}$ viral particles per minute, per dose, in particular each dose of virus is administered such that the rate of viral particle delivery is $1.5x10^{11}$ viral particles per minute, per dose.

9. Use according to Claim 8, in which the rate of viral particle delivery is $2x10^{11}$, $1.67\ x10^{11}$ or $1.5x10^{11}$ viral particles per minute, per dose.

10. Use according to any preceding claim, in which 1 x 10^{13} viral particles are administered over a 60 minute period per dose or in which 6x10^{12} viral particles are administered over a 40 minute period per dose.

11. Use according to any preceding claim, in which the plasma level of virus after administration of the second and optionally subsequent doses reaches a level of at least 2x10^{6} viral particles per mL.

12. Use according to Claim 11, in which the plasma level of viral particles is maintained for 15 minutes or greater.

13. Use according to Claim 12, in which the plasma level of viral particles is maintained for 20, 30, 40, 50 or 60 minutes.

14. Use according to any preceding claim, in which the volume of the formulation administered is 100mL or less, for example 30mLs or less, such as about 3mLs or 5mLs.

15. Use according to any preceding claim, in which a first dose is administered on day 1 and the further therapeutic doses are administered every second day thereafter, for example in which the first dose is administered on day 1 and the further therapeutic doses are administered on days 3 and 5.

16. Use according to any preceding claim, in which the adenovirus is a chimeric adenovirus, for example in which the chimeric adenovirus is ColoAd1.

17. Use according to any preceding claim, in which the virus is administered in combination with the administration of any other anti-cancer therapy including a chemotherapeutic agent, an immunotherapeutic agent such as an antibody or fragment thereof, a small molecule inhibitor such as a kinase inhibitor or an mTOR inhibitor, radiotherapy, radio-isotope therapy or any combination thereof.

18. Use according to any preceding claim, in which the virus is administered in combination with the administration of one or more prophylactic agents.

19. Use according to Claim 18, in which the one or more prophylactic agents is selected from the group consisting of an antipyretic, an antiemetic, a steroid and an analgesic.

20. Use according to any preceding claim for the treatment of a solid tumour.

21. Use according to Claim 20, in which the solid tumour is a colorectal malignancy.

22. Use according to any preceding claim, in which the first dose in the treatment cycle is a lower dose than the dose administered in subsequent treatments in the cycle.

23. Use according to any preceding claim, in which the adenovirus is formulated to at least partially avoid the patient's immune system.

24. Use according to any preceding claim, in which the adenovirus contains a transgene.

25. Use according to any preceding claim, in which the treatment results in the necrosis of the cancer cells accompanied by an increase in plasma cytokine levels.