Claims

1. A combination comprising an oncolytic adenovirus and a CDK4/6 inhibitor, wherein the adenovirus is replicating in a YB-1 dependent manner and wherein the adenovirus is lacking expression of E1A13S.

2. The combination of claim 1, wherein the adenovirus is replication deficient in cells which lack YB-1 in the nucleus, but is replicating in cells which have YB-1 in the nucleus.

3. The combination of any ones of claims 1 to 2, wherein the combination further comprises a PARP inhibitor.

4. The combination of any one of claims 1 to 3, wherein the combination further comprises a bromodomain inhibitor.

5. The combination of any one of claims 1 to 4 for use in treating a tumor or cancer.

6. An adenovirus for use in treating a tumor or cancer in a subject, wherein the subject is to be administered the adenovirus and a CDK4/6 inhibitor, wherein the adenovirus is defined as in any one of claims 1 to 2.

7. A CDK4/6 inhibitor for use in treating a tumor or cancer in a subject, wherein the subject is to be administered an adenovirus and the CDK4/6 inhibitor, wherein the adenovirus is defined as in any one of claims 1 to 2.

8. Use of the combination of any one of claims 1 to 4 in the manufacture of a medicament for treating a tumor or cancer in a subject.

9. Use of an adenovirus in the manufacture of a medicament for treating a tumor or a cancer in a subject, wherein the subject is to be administered the adenovirus and a CDK4/6 inhibitor, wherein the adenovirus is defined as in any one of claims 1 to 2.

10. Use of a CDK4/6 inhibitor in the manufacture of a medicament for treating a tumor or cancer in a subject, wherein the subject is to be administered the CDK4/6 inhibitor and an adenovirus, wherein the adenovirus is defined as in any one of claims 1 to 2.

11. The combination of any one of claims 1 to 4, the combination for use of claim 5, the adenovirus for use of claim 6, the CDK4/6 inhibitor for use of claim 7, or the use of any one of claims 8 to 10, wherein the oncolytic adenovirus is lacking expression of E1B 19 kDa protein.

12. The combination of any one of claims 1 to 4 and 11, the combination for use of any one of claims 5 and 11, the adenovirus for use of any one of claims 6 and 11, the CDK4/6 inhibitor for use of any one of claims 7 and 11, or the use of any one of claims 8 to 11, wherein the oncolytic adenovirus is an oncolytic adenovirus expressing an RGD motif at a fibre.

13. The combination of any one of claims 1 to 4 and 11 to 12, the combination for use of any one of claims 5 and 11 to 12, the adenovirus for use of any one of claims 6 and 11 to 12, the CDK4/6 inhibitor for use of any one of claims 7 and 11 to 12, or the use of any one of claims 8 to 12 wherein the adenovirus is selected from the group comprising XVir-N-31, dl520, AdΔ24, AdΔ24-RGD, dl922-947, E1Ad/01/07, dl1119/1131, CB 016, VCN-01, E1Adl1107, E1Adl1101, ORCA-010, Enadenotucirev and viruses lacking an expressed viral oncogene which is capable of binding a functional Rb tumor suppressor gene product.

14. The combination of any one of claims 1 to 4 and 11 to 13, the combination for use of any one of claims 5 and 11 to 13, the adenovirus for use of any one of claims 6 and 11 to 13, the CDK4/6 inhibitor for use of any one of claims 7 and 11 to 13, or the use of any one of claims 8 to 13, wherein the adenovirus is XVir-N-31.

15. The combination of any one of claims 1 to 4 and 11 to 14, the combination for use of any one of claims 5 and 11 to 14, the adenovirus for use of any one of claims 6 and 11 to 14, the CDK4/6 inhibitor for use of any one of claims 7 and 11 to 14, or the use of any one of claims 8 to 14, wherein the CDK4/6 inhibitor is a CDK4/6 inhibitor arresting cells in the G1 phase and inhibiting E2F1.

16. The combination of any one of claims 1 to 4 and 11 to 15, the combination for use of any one of claims 5 and 11 to 15, the adenovirus for use of any one of claims 6 and 11 to 15,

the CDK4/6 inhibitor for use of any one of claims 7 and 11 to 15, or the use of any one of claims 8 to 15, wherein the CDK4/6 inhibitor is an ATP-competitive small molecule CDK4/6 inhibitor.

17. The combination of any one of claims 1 to 4 and 11 to 16, the combination for use of any one of claims 5 and 11 to 16, the adenovirus for use of any one of claims 6 and 11 to 16, the CDK4/6 inhibitor for use of any one of claims 7 and 11 to 16, or the use of any one of claims 8 to 16, wherein the CDK4/6 inhibitor is selected from the group comprising palbociclib which is also referred to as PD 0332991, abemaciclib which is also referred to as LY-2835219, ribociclib which is also referred to as LEE011, and Trilaciclib which is also referred to as G1T28.

18. The combination for use of any one of claims 5 and 11 to 17, the adenovirus for use of any one of claims 6 and 11 to 17, the CDK4/6 inhibitor for use of any one of claims 7 and 11 to 17, or the use of any one of claims 8 to 17, wherein the disease tumor or cancer is expressing Rb or is Rb-positive.

19. The combination for use of any one of claims 5 and 11 to 18, the adenovirus for use of any one of claims 6 and 11 to 18, the CDK4/6 inhibitor for use of any one of claims 7 and 11 to 18, or the use of any one of claims 8 to 18, wherein the cells of the tumor cells have a resistance to or are insensitive to one or several pharmaceutically active agents and/or radiation.

20. The combination for use of any one of claims 5 and 11 to 19, the adenovirus for use of any one of claims 6 and 11 to 19, the CDK4/6 inhibitor for use of any one of claims 7 and 11 to 19, or the use of any one of claims 8 to 19, wherein the tumor or cancer contains YB-1 in the cell nucleus independent of the cell cycle.

21. The combination for use of any one of claims 5 and 11 to 20, the adenovirus for use of any one of claims 6 and 11 to 20, the CDK4/6 inhibitor for use of any one of claims 7 and 11 to 20, or the use of any one of claims 8 to 20, wherein the disease is selected from the group comprising bladder cancer, breast cancer, metastatic breast cancer (mBC), melanoma, glioma, pancreatic cancer, hepatocellular carcinoma, lung adenocarcinoma, sarcoma, ovarian cancer, renal cancer, prostate cancer, and leukemia.