Claims

1. In vitro u~~U~~se of ~~a virus, preferably~~ an adenovirus for reversing drug resistance in a tumor cell~~s~~, wherein the adenovirus is replicating in cells having YB-1 in the nucleus, but is replication-deficient in cells not having YB-1 in the nucleus;
wherein the resistance is mediated by a gene the transcription of which is activated by YB-1;
wherein the adenovirus encodes E1A which transactivates an E1B55kDa gene and an E4orf6 gene or
wherein the adenovirus expresses a first protein which is selected from the group comprising an E1B protein and an E4 protein, prior to a second protein which is selected from the group comprising an E1A protein.

2. Use of ~~a virus, preferably~~ an adenovirus for the manufacture of a medicament for reversing drug resistance~~s~~ in a tumor cell~~s~~, wherein the adenovirus is replicating in cells having YB-1 in the nucleus, but is replication-deficient in cells not having YB-1 in the nucleus;
wherein the resistance is mediated by a gene the transcription of which is activated by YB-1;
wherein the adenovirus encodes E1A which transactivates an E1B55kDa gene and an E4orf6 gene or
wherein the adenovirus expresses a first protein which is selected from the group comprising an E1B protein and an E4 protein, prior to a second protein which is selected from the group comprising an E1A protein.

3. In vitro u~~U~~se of ~~a virus, preferably~~ an adenovirus for restoring drug sensitivity of a drug resistant tumor cell~~s~~, wherein the adenovirus is replicating in cells having YB-1 in the nucleus, but is replication-deficient in cells not having YB-1 in the nucleus;
wherein the resistance is mediated by a gene the transcription of which is activated by YB-1;
wherein the adenovirus encodes E1A which transactivates an E1B55kDa gene and an E4orf6 gene or
wherein the adenovirus expresses a first protein which is selected from the group comprising an E1B protein and an E4 protein, prior to a second protein which is selected from the group comprising an E1A protein.

4. Use of ~~a virus, preferably~~ an adenovirus for the manufacture of a medicament for restoring drug sensitivity of a drug resistant tumor cell~~s~~, wherein the adenovirus is replicating in cells having YB-1 in the nucleus, but is replication-deficient in cells not having YB-1 in the nucleus;
wherein the resistance is mediated by a gene the transcription of which is activated by YB-1;
wherein the adenovirus encodes E1A which transactivates an E1B55kDa gene and an E4orf6 gene or
wherein the adenovirus expresses a first protein which is selected from the group comprising an E1B protein and an E4 protein, prior to a second protein which is selected from the group comprising an E1A protein.

5. Use according to any of claims 1 to 4, whereby the cell~~s~~ is~~are~~ an animal cell~~s~~, preferably a mammalian cell~~s~~ and more preferably a human cell~~s~~.

~~6. Use according to claim 5, whereby the cells are tumor cells.~~

6~~7~~. Use according to any of claims 1 to 5 ~~or 6~~, whereby the cells have a resistance to or are insensitive to one or several pharmaceutically active agents and/or radiation.

7~~8.~~ Use according to claim 6~~7~~, whereby the pharmaceutically active agent is a cytostatic.

~~9. Use of a virus, preferably an adenovirus for inhibiting ABC transporters, in particular the expression of ABC transporters.~~

8~~10~~. Use according to any of claims 1 to ~~8~~7, characterised in that the resistance is mediated by an ABC transporter.

9~~11~~. Use according to any of claims 1 to ~~10~~8, characterised in that the resistance is a multiple resistance or polyresistance, particular a multiple or polyresistance against cytostatics and/or radiation.

~~12. Use of a virus, preferably an adenovirus for the manufacture of a medicament for the treatment of diseases, in particular tumor diseases, whereby the cells involved in the disease or a part thereof, are resistant, in particular have an ABC transporter mediated resistance and/or a~~

~~multiple resistance or polyresistance, preferably a multiple resistance or polyresistance against cytostatics and/or radiation.~~

~~13. Use according to claim 12, characterised in that the treatment comprises the administration of the adenovirus and a further pharmaceutically active agent, or the administration of an adenovirus and radiation of the cell or the organism to be treated, whereby the administration of the adenovirus causes or increases the efficacy of the further pharmaceutically active agent and/or of the radiation.~~

~~14. Use according to claim 12, characterised in that the treatment comprises the administration of the adenovirus and a further pharmaceutically active agent or the administration of an adenovirus and radiation of the cell or the organism to be treated, whereby the administration of the further pharmaceutically active agent and/or the radiation causes or increases the efficacy of the adenovirus.~~

10~~15~~. Use according to ~~any of~~ claim~~s~~ 8~~9~~ ~~to~~r 9~~14~~, whereby the ABC transporter is selected from the group comprising MRP and MDR, in particular MDR-1.

~~16. Use according to claim 13, characterised in that the adenovirus is administered at least at the beginning of the treatment prior to the administration of the further pharmaceutically active agent.~~

~~17. Use according to claim 13, characterised in that the adenovirus is administered at least prior to the radiation at the beginning of the treatment.~~

~~18. Use according to claim 16 or 17, characterised in that the adenovirus is administered about 1 to 3 days, preferably about 1 to 2 days prior to the administration of the further pharmaceutically active agent or prior to the radiation.~~

~~19. Use according to any of claims 1 to 18, characterised in that the resistance is a resistance against cytostatics and/or radiation.~~

~~20. Use according to any of claims 12 to 19, characterised in that the further pharmaceutically active agent is selected from the group comprising cytostatics.~~

~~21. Use according to any of claims 12 to 19, characterised in that the radiation is a radiation as used in the radiation of tumor diseases.~~

~~22. Use according to any of claims 12 to 21, characterised in that the radiation is performed at a dosage and using a radiation regimen and/or that the further pharmaceutically active agent is administered at a dosage or in accordance with a treatment regimen as with patients, whereby the patients are selected from the group comprising immune suppressed patients, patients having a bad or pathological blood picture and patients having bad or pathological kidney values.~~

~~23. Use according to any of claims 12 to 22, characterised in that the radiation is performed at the dosage or in accordance with a radiation regimen and/or the further pharmaceutically active agent is administered at a dosage or in accordance with a treatment regimen as in connection with patients suffering from a disease, whereby the cells involved in such disease or a part thereof are not resistant.~~

~~24. Use according to any of claims 14 to 23, characterised in that the administration of the adenovirus creates the prerequisite for the administration of the further pharmaceutically active agent or for the radiation.~~

~~25. Use according to any of claims 1 to 24, characterised in that the adenovirus is present as a virus, nucleic acid, vector, replication system, medicament or pharmaceutically composition.~~

~~26. Use according to any of claims 1 to 25, characterised in that the adenovirus is replicating in a YB-1 dependent manner.~~

~~27. Use according to any of claims 1 to 26, characterised in that the adenovirus is E1A minus.~~

~~28. Use according to any of claims 1 to 27, characterized in that the adenovirus is an oncolytic adenovirus.~~

~~29. Use according to any of claims 1 to 28, whereby the virus, preferably an adenovirus, is replication deficient in cells which lack YB-1 in the nucleus, and whereby the virus encodes an oncogene or oncogene product, in particular an oncogene protein, which transactivates at least~~

~~one viral gene, preferably an adenoviral gene, whereby the gene is selected from the group comprising E1B55kDa, E4orf6, E4orf3 and E3ADP.~~

~~30. Use according to claim 29, characterised in that the virus, in particular the adenovirus replicates in cells which have YB-1 in the nucleus.~~

~~31. Use according to any of claims 29 to 30, characterised in that the viral oncogene protein is E1A and/or the oncogene is the gene coding for E1A and/or the oncogene protein E1A.~~

~~32. Use according to claim 31, characterised in that the viral oncogene protein E1A is capable of binding a functional Rb tumor suppressor gene product.~~

~~33. Use according to claim 31, characterised in that the viral oncogene protein E1A is incapable of binding a functional Rb tumor suppressor gene product.~~

11~~34~~. Use according to any of claims 1 ~~31~~ to 10~~33~~, characterised in that the ~~viral oncoprotein~~ E1A does not induce the localisation of YB-1 into the nucleus.

~~35. Use according to any of claims 29 to 34, characterised in that the medicament is for patients whose cells are Rb positive or Rb negative.~~

~~36. Use according to any of claims 29 to 35, characterised in that the cells are Rb negative and the cell nucleus is YB-1 positive, preferably YB-1 positive in the nucleus independent from the cell cycle.~~

~~37. Use according to any of claims 29 to 36, characterised in that the cells are p53 positive or p53 negative.~~

~~38. Use according to any of claims 29 to 37, characterised in that the oncogene protein exhibits one or several mutations or deletions compared to the wildtype oncogene protein E1A, whereby the deletion is preferably one selected from the group comprising deletions of the CR3 stretches and deletions of the N-terminus and deletions of the C-terminus.~~

~~39. Use according to claim 38, characterised in that the E1A oncogene protein is capable of binding to Rb.~~

~~40. Use according to any of claims 29 to 37, characterised in that the oncogene protein comprises one or several mutations or deletions compared to the wildtype oncogene protein, whereby the deletion is preferably a deletion in the CR1 region and/or CR2 region.~~

~~41. Use according to claim 40, characterised in that the oncogene protein E1A is incapable of binding to Rb.~~

~~42. Use according to any of claims 29 to 41, characterised in that the viral oncogene protein, preferably E1A, is under the control of a tissue- and/or tumor-specific promoter.~~

~~43. Use according to any of claims 29 to 42, characterised in that the virus, particularly the adenovirus, codes for YB-1.~~

~~44. Use according to claim 43, characterised in that YB-1 is under the control of a tissue-specific and/or tumor-specific promoter.~~

~~45. Use according to any of claims 29 to 44, characterised in that the virus, preferably the adenovirus, codes for at least one protein, whereby the protein is selected from the group comprising E4orf6, E4orf3, E1B55k and adenoviral E3ADP protein.~~

~~46. Use according to any of claims 29 to 45, characterised in that the cells comprise YB-1 in the nucleus, preferably that the cells forming the tumor or part thereof have YB-1 in the nucleus.~~

~~47. Use according to any of claims 29 to 46, characterised in that the tumor comprises YB-1 in the nucleus after induction of the transport of YB-1 into the nucleus.~~

~~48. Use according to claim 47, characterised in that the transport of YB-1 into the nucleus is triggered by at least one measure selected from the group comprising irradiation, administration of cytostatics and hyperthermia.~~

~~49. Use according to claim 48, characterised in that the measure is applied to a cell, an organ or an organism, preferably an organism in need thereof, more preferably an organism suffering from said disease.~~

12~~50~~. Use according to any of claims 1 to 11~~29 to 49~~, characterised in that the ~~virus, preferably the~~ adenovirus, is selected from the group comprising AdΔ24, dl922-947, E1Ad/01/07, dl1119/1131, CB 016, dl520 and viruses lacking an expressed viral oncogene which is capable of binding a functional Rb tumor suppressor gene product.

13. Use according to claim 12, wherein the adenovirus is dl520.

14. Use according to claim 11 or 12 , wherein the adenovirus is E1B19 kDa deficient.

15. Use according to any of claims 1 to 14, wherein the first protein is an E1B55kDa protein.

16. Use according to any of claims 1 to 15 , wherein the first protein is an E4orf6 protein.

17. Use according to any of claims 1 to 16, wherein the first protein is a combination of E1B55kDa protein and E4orf6 protein, preferably the first protein is a complex of E1B55kDa protein and E4orf6 protein.

18. Use according to any of claims 1 to 17, wherein the E1A protein is E1A12S protein.

19. Use according to any of claims 1 to 18, wherein the adenovirus expresses an E1B55kDa protein and an E4orf6 protein prior to an E1A12S protein.

20. Use according to any of claims 1 to 19, wherein characterised in that the virus, particularly the adenovirus, codes for YB-1.

21. Use according to claim 20, wherein characterised in that YB-1 is under the control of a tissue-specific and/or tumor-specific promoter.

22. Use according to any of claims 1 to 21, wherein the tumor cell has YB-1 in the nucleus, preferably the cell has YB-1 in the nucleus independent from the cell cycle.

23. Use according to any of claims 1 to 22, wherein the tumor cells comprises YB-1 in the nucleus after induction of the transport of YB-1 into the nucleus.

24. Use according to claim 23, wherein the transport of YB-1 into the nucleus is triggered by at least one measure selected from the group comprising irradiation, administration of cytostatics and hyperthermia.

~~51. Use according to any of claims 29 to 50 whereby the virus, preferably the adenovirus, is designed such that the replication is controlled by YB-1 through the activation of the E2-late promoter, preferably the activation is predominantly controlled through the activation of the E2-late promoter.~~

25~~52~~. Use according to any of claims 1 to 24~~29 to 51~~, whereby the adenovirus comprises a nucleic acid coding for a transgene.

26~~53~~. Use according to any of claims 1 to 25 ~~29 to 51~~, whereby the virus comprises the translation and/or transcription product of a transgene.

~~54. Use according to any of claims 52 to 53, whereby the nucleic acid comprises a transgene or a nucleic acid coding for a transgene.~~

27~~55~~. Use according to ~~any of~~ claim~~s~~ 25 or 26 ~~52 to 54~~, whereby the transgene is selected from the group comprising prodrug genes, cytokines and genes for cytokines, apoptosis-inducing genes, tumor suppressor genes, genes for metalloproteinase inhibitors and genes for angiogenesis inhibitors.

28~~56~~. Use according to any of claims 25 or 26~~52 to 54~~, whereby the transgene is selected from the group comprising nucleic acids for siRNA, for aptamers, for antisense molecules and for ribozymes, whereby the siRNA, the aptamer, the antisense molecule and/or the ribozyme are targeting a target molecule.

29~~57~~. Use according to claim 28~~56~~, whereby the target molecule is selected from the group comprising resistance relevant factors, anti-apoptosis factors, oncogenes, angiogenesis factors, DNA synthesis enzymes, DNA repair enzymes, growth factors, receptors for growth factors,

transcription factors, metalloproteinases, preferably matrix metalloproteinase kinases, and plasminogen activator of the urokinase type.

30. Use according to any of claims 1 to 29, wherein the medicament is for the treatment of cancer or tumors.

3158. Use according to any of ~~the preceding~~ claims 1 to 30, whereby the medicament further comprises at least one pharmaceutically active agent.

3259. Use according to claim 3158, whereby the pharmaceutically active agent is selected from the group comprising cytokines, metalloproteinase inhibitors, angiogenesis inhibitors, cytostatics, cell cycle inhibitors, proteosome inhibitors, recombinant antibodies, inhibitors of the signal transduction pathway and inhibitors of protein kinases.

~~60. Use according to any of the preceding claims, characterised in that the medicament comprises a combination of at least two agents, whereby each of said agents is individually and independently selected from the group comprising cytostatics.~~

~~61. Use according to claim 60, characterised in that at least two of the agents are targeting different target molecules.~~

~~62. Use according to claim 61, characterised in that at least two of the agents are active through different modes of action.~~

~~63. Use according to any of claims 60 to 62, characterised in that at least one agent increases the infectability of the cell in which the virus replicates.~~

~~64. Use according to any of claims 60 to 63, characterised in that at least one agent affects the availability of a component of the cell, preferably increases the availability of the component, whereby the component mediates the uptake of the virus.~~

~~65. Use according to any of claims 60 to 64, characterised in that at least one agent mediates the transport of YB-1 into the nucleus, preferably increases the same.~~

~~66. Use according to any of claims 60 to 65, characterised in that at least one agents is a histone deacetylase hinhibitor.~~

~~67. Use according to claim 66, characterised in that the histone deacetylase inhibitor is selected from the group comprising trichostatine A, FR901228, MS-27-275, NVP-LAQ824, PXD101, apicidine and striptaid.~~

~~68. Use according to any of claims 60 to 66, characterised in that the at least one agent is selected from the group comprising trichostatine A, FR901228, MS-27-275, NVP-LAQ824, PXD101, apicidine and striptaid.~~

~~69. Use according to any of claims 60 to 68, characterised in that at least one agent is a topoisomerase inhibitor.~~

~~70. Use according to claim 69, characterised in that the topoisomerase inhibitor is selected from the group comprising Camptothecin, Irinotecan, Topotecan, DX-895If, SN-38, 9-aminocamptothecin, 9-nitrocamptothecin, Daunorubicn and Etoposid.~~

~~71. Use according to any of the preceding claims, characterised in that the medicament comprises trichostatin A and irinotecan.~~

~~72. Use according to any of the preceding claims, characterised in that the virus, in particular the virus in accordance with any of the preceding claims, is separated from the at least two agents in said medicament.~~

~~73. Use according to claim 72, characterised in that at least one unit dosage of the virus is separated from at least one unit dose of one or the at least two agents.~~

~~74. Use according to any of claims 1 to 28, whereby the virus, preferably the adenovirus expresses a first protein which is selected from the group comprising an E1B protein and an E4 protein, prior to a second protein which is selected from the group comprising an E1A protein.~~

~~75. Use according to claim 74, characterised in that the first protein is an E1B protein, preferably an E1B55kd protein.~~

~~76. Use according to claim 74, characterised in that the first protein is an E4 protein, preferably an E4orf6 protein.~~

~~77. Use according to any of claims 74 to 76, characterised in that the first protein is a combination of E1B protein and E4 protein, preferably a combination of E1B55kD protein and E4orf6 protein.~~

~~78. Use according to any of claims 74 to 77, characterised in that the E1A protein is an E1A12S protein .~~

~~79. Use according to any of claims 1 to 28 and/or preferably an adenovirus as defined in any of claims 74 to 78, characterised in that the virus comprises at least one nucleic acid coding for a protein which is selected from the group comprising E1B proteins, E4 proteins and E1A proteins, whereby the at least one protein is under the control of a promoter which is different from the promoter controlling the expression of the protein in a wildtype adenovirus.~~

~~80. Use according to claim 79, characterised in that the at least one protein is an E1B protein, preferably an E1B55kD protein.~~

~~81. Use according to claim 79 or 80, characterised in that the at least one protein is an E4 protein, preferably an E4orf6 protein.~~

~~82. Use according to any of claims 79 to 81, characterised in that the at least one protein is an E1A protein, preferably an E1A12S protein.~~

~~83. Use according to any of claims 79 to 82, characterised in that the at least one protein is a combination of E1B protein and E4 protein, preferably a combination of E1B55kD protein and E4orf6 protein.~~

~~84. Use according to any of claims 79 to 82, characterised in that the at least one protein is a combination of E1B protein and E1A protein, preferably a combination of E1B55kD protein and E1A12S protein.~~

~~85. Use according to any of claims 79 to 82, characterised in that the at least one protein is a combination of E4 protein and E1A protein, preferably a combination of E4orf6 protein and E1A12S protein.~~

~~86. Use according to any of claims 79 to 82, characterised in that the at least one protein is a combination of E1B protein, E4 protein and E1A protein, preferably a combination of E1B55kD protein, E4orf6 protein and E1A12S protein.~~

~~87. Use according to any of claims 79 to 86, characterised in that the expression of the E1B protein is controlled by a promoter, whereby the promoter is selected from the group comprising tumor specific promoters, organ specific promoters, tissue specific promoters, heterologous promoters and adenoviral promoters, whereby the adenoviral promoter is different from the E1B promoter.~~

~~88. Use according to any of claims 79 to 87, characterised in that the expression of the E4 protein is controlled by a promoter, whereby the promoter is selected from the group comprising tumor specific promoters, organ specific promoters, tissue specific promoters, heterologous promoters and adenoviral promoters, whereby the adenoviral promoter is different from the E4 promoter.~~

~~89. Use according to claim 87 and 88, whereby the adenoviral promoter is the E1A promoter.~~

~~90. Use according to any of claims 79 to 89, characterised in that the expression of the E1A protein is controlled by a promoter, whereby the promoter is selected from the group comprising tumor specific promoters, organ specific promoters, tissue specific promoters, heterologous promoters and adenoviral promoters, whereby the adenoviral promoter is different from the E1A promoter.~~

~~91. Use according to any of claims 87 to 90, characterised in that the expression of the E1A protein is YB-1 controlled or can be regulated by YB-1.~~

~~92. Use according to any of claims 87 to 91, characterised in that the promoter controlling the expression of the E1A protein is the adenoviral E2 late promoter.~~

~~93. Use according to any of claims 74 to 92, characterised in that the E4 protein, preferably the E4orf6 protein, and the E1B protein, preferably the E1B55kd protein, are under the control of the same or a common promoter.~~

~~94. Use according to any of claims 1 to 28, and/or preferably according to any of claims 74 to 93, characterised in that the virus provides YB-1 in the nucleus through at least one adenoviral protein or mediates the provision of YB-1 in the nucleus through at least one adenoviral protein, whereby preferably the adenoviral protein is different from E1A.~~

~~95. Use according to any of claims 1 to 28, and/or preferably according to any of claims 74 to 94, characterised in that the virus provides YB-1 for adenoviral replication through at least one adenoviral protein or mediates the provision of YB-1 for adenoviral replication through at least one adenoviral protein, whereby preferably the adenoviral protein is different from E1A.~~

~~96. Use according to claim 94 or 95, characterised in that the adenoviral protein is a complex of E4orf6 and E1B55kd.~~

~~97. Use according to any of claims 1 to 28, and/or preferably according to claims 74 to 96, characterised in that the nucleic acid of the adenovirus comprises at least one functionally inactive adenoviral region, whereby the region is selected from the group comprising the E1 region, the E3 region, the E4 region and combinations thereof.~~

~~98. Use according to claim 97, characterised in that the region is the E1 region.~~

~~99. Use according to claims 97 or 98, characterised in that the region is the E3 region.~~

~~100. Use according to any of claims 97 to 100, characterised in that the region is the E4 region.~~

~~101. Use according to any of claims 97 to 100, characterised in that the region comprises the E1 region, the E3 region and the E4 region.~~

~~102. Use according to any of claims 1 to 28, and/or preferably to any of claims 74 to 100, characterised in that the virus comprises at least one expression cassette, whereby the expression~~

~~cassette comprises at least one promoter and a nucleic acid coding for an adenoviral protein, whereby the adenoviral protein is an E1B protein, preferably an E1B55kD protein.~~

~~103. Use according to claim 102, characterised in that the promoter is different from the E1B promoter.~~

~~104. Use according to claim 103, characterised in that the promoter is selected from the group comprising tumor-specific promoters, organ-specific promoters, tissue-specific promoters, heterologous promoters and adenoviral promoters, whereby the promoter is different from the E1B promoter.~~

~~105. Adenovirus according to any of claims 1 to 28, and/or preferably according to any of claims 74 to 104, characterised in that the virus comprises at least one expression cassette, whereby the expression cassette comprises at least one promoter and a nucleic acid coding for an adenoviral protein, whereby the adenoviral protein is an E4 protein, preferably an E4orf6 protein.~~

~~106. Use according to claim 105, characterised in that the promoter is different from the E4 promoter.~~

~~107. Use according to claim 106, characterised in that the promoter is selected from the group comprising tumor-specific promoters, organ-specific promoters, tissue-specific promoters, heterologous promoters and adenoviral promoters, whereby the adenoviral promoter is different from the E4 promoter.~~

~~108. Use according to any of claims 102 to 107, characterised in that the promoter is the E1A promoter.~~

~~109. Use according to any of claims 1 to 28, and/or preferably according to any of claims 74 to 108, characterised in that the virus comprises at least one expression cassette, whereby the expression cassette comprises at least one promoter and a nucleic acid coding for an adenoviral protein, whereby the adenoviral protein is an E1A protein, preferably an E1A12S protein.~~

~~110. Use according to claim 109, characterised in that the promoter is different from the E1A promoter.~~

~~111. Use according to claim 110, characterised in that the promoter is selected from the group comprising tumor-specific promoters, organ-specific promoters, tissue-specific promoters, heterologous promoters and adenoviral promoters.~~

~~112. Use according to any of claims 74 to 111, characterised in that the adenovirus comprises a nucleic acid, whereby the nucleic acid codes for YB-1.~~

~~113. Use according to claim 112, characterised in that the nucleic acid coding for YB-1 is under the control of a promoter, whereby the promoter is preferably the E2 late promoter.~~

~~114. Use according to claim 112 or 113, characterised in that the nucleic acid coding for YB-1 is under the control of a promoter, whereby the promoter is YB-1 dependent and YB-1 controlled, respectively.~~

~~115. Use according to any of claims 108 to 114, characterised in that the nucleic acid coding for YB-1 is part of the expression cassette comprising a nucleic acid coding for an E1A protein, preferably a nucleic acid coding for an E1A12S protein.~~

~~116. Use according to claim 115, characterised in that the nucleic acid coding for the E1A protein is separated from the nucleic acid coding for YB-1 through an IRES sequence.~~

~~117. Use according to any of claims 102 to 116, characterised in that the nucleic acid coding for the E4 protein, preferably the E4orf6 protein, and the nucleic acid coding for the E1B protein, preferably the E1B55kD protein, are contained in an expression cassette, whereby preferably the two coding sequences are separated through an IRES sequence.~~

~~118. Use according claim 117, characterised in that the promoter of the expression cassette is selected from the group comprising tumor-specific promoters, organ-specific promoters, tissue-specific promoters, heterologous promoters and adenoviral promoters, whereby the adenoviral promoter is different from the E4 promoter and different from the E1B promoter, preferably different from the wildtype E4 promoter and different from the wildtype E1B promoter.~~

~~119. Use according to any of claims 74 to 118, characterised in that the virus comprises an expression cassette comprising a promoter and a nucleic acid sequence, whereby the nucleic acid sequence is selected from the group comprising aptamers, ribozymes, aptazymes, antisense molecules and siRNA.~~

~~120. Use according to any of claims 74 to 118, characterised in that the virus comprises an expression cassette comprising a promoter and a nucleic acid sequence, whereby the nucleic acid sequence is a coding nucleic acid, whereby the nucleic acid codes for a molecule which is selected from the group comprising peptides, polypeptides, proteins, anticalines, antibodies and antibody fragments.~~

~~121. Use according to any of claims 74 to 118, characterised in that the virus comprises an expression cassette, whereby the expression cassette comprises a promoter and a nucleic acid sequence, whereby the nucleic acid sequence is selected from the group comprising apoptosis inducing genes, prodrug genes, protease inhibitors, tumor suppressor genes, cytokines and angiogenesis inhibitors.~~

~~122. Use according to any of claims 74 to 121, characterised in that the virus is a recombinant adenovirus.~~

~~123. Use according to any of claims 74 to 122, characterised in that the virus is an adenovirus mutant.~~

~~124. Use according to any of claims 74 to 123, characterised in that the virus is replication deficient.~~

~~125. Use according to claim 124, characterised in that the virus is capable of replicating in cells comprising deregulated YB-1 or having YB-1 in the nucleus.~~

~~126. Use according to claim 125, characterised in that the cells contain YB-1 in the nucleus independent of the cell cycle.~~

~~127. Use according to any of claims 74 to 126, characterised in that the medicament comprises at least one further pharmaceutically active agent.~~

~~128. Use according to any of claims 74 to 126, characterised in that the medicament is administered together with a further pharmaceutically active agent or is intended therefor.~~

~~129. Use according to any of claims 74 to 128, characterised in that the further pharmaceutically active agent is selected from the group comprising cytokines, metalloproteinase inhibitors, angiogenesis inhibitors, cytostatics, tyrosine kinase inhibitors, cell cycle inhibitors, proteosome inhibitors, inhibitors of the signal transduction cascade, inhibitors of protein kinase and recombinant antibodies.~~

~~130. Use according to any of claims 74 to 129, characterised in that the medicament comprises a combination of at least two agents, whereby each agent is individually and independently selected from the group comprising cytostatics.~~

~~131. Use according to claim 130, characterised in that at least two of the agents are targeting different target molecules.~~

~~132. Use according to claim 131, characterised in that at least two of the agents are active through different modes of action.~~

~~133. Use according to any of claims 130 to 132, characterised in that at least one agent increases the infectability of a cell in which the virus replicates.~~

~~134. Use according to any of claims 130 to 133, characterised in that the agent affects the availability of a component of the cell, preferably increases the availability of the component, whereby the component mediates the uptake of the virus.~~

~~135. Use according to any of claims 130 to 134, characterised in that the agent mediates the transport of YB-1 into the nucleus, preferably increases the transport YB-1 into the nucleus.~~

~~136. Use according to any of claims 130 to 135, characterised in that the agent is a histone deacetylase inhibitor.~~

~~137. Use according to claim 136, characterised in that the histone deacetylase inhibitor is selected from the group comprising trichostatine A, FR901228, MS-27-275, NVP-LAQ824, PXD101, apicidine and striptaid.~~

~~138. Use according to any of claims 128 to 136, characterised in that at least one agent is selected from the group comprising trichostatine A, FR901228, MS-27-275, NVP-LAQ824, PXD101, apicidine and striptaid.~~

~~139. Use according to any of claims 128 to 138, characterised in that at least one agent is a topoisomerase inhibitor.~~

~~140. Use according to claim 139, characterised in that the topoisomerase inhibitor is selected from the group comprising Camptothecin, SN-38, Topotecan, DX-895If, Irinotecan, 9-aminocamptothecin, 9-nitrocamptothecin, Etoposid and Daunorubicin.~~

~~141. Use according to any of claims 66 to 132, characterised in that the agent comprises trichostatine A and irinotecan.~~

~~142. Use according to any of claims 1 to 28, characterised in that the virus comprises:~~

- ~~a lacking functional wildtype E1 region, and~~
- ~~a transporter for the transport of YB-1 into the nucleus of a cell which is infected by the virus.~~

~~143. Use according to claim 142, characterised in that the virus expresses a nucleic acid coding for protein IX and expresses protein IX.~~

~~144. Use according to claim 142 or 143, characterised in that the lacking functional wildtype E1A region is E1A-minus.~~

~~145. Use according to any of claims 142 to 144, characterised in that the lacking functional wildtype E1 region is E1B-minus.~~

~~146. Use according to claim 145, characterised in that the lacking wildtype E1 region is E1B55k-minus and/or E1B19k-minus and/or protein IX-minus.~~

~~147. Use according to any of claims 142 to 146, characterised in that the transporter is a transporter as provided by the virus preferably a heterologuous transporter.~~

~~148. Use according to claim 147, characterised in that the transporter is a viral transporter.~~

~~149. Use according to any of claims 142 to 148, characterised in that the transporter comprises the protein E4orf6.~~

~~150. Use according to any of claims 142 to 149, characterised in that the transporter comprises the protein E1B55k.~~

~~151. Use according to any of claims 147 to 149, characterised in that the transporter comprises a complex consisting of E4orf4 and E1B55k.~~

~~152. Use according to any of claims 147 to 151, characterised in that the transporter is encoded by a nucleic acid, whereby the nucleic acid is under the control of a promoter.~~

~~153. Use according to claim 152, characterised in that the transporter is a complex consisting of at least two factors, whereby each factor is encoded by a nucleic acid, whereby both nucleic acids are controlled by a common promoter.~~

~~154. Use according to claim 153, characterised in that the two coding nucleic acids are linked through an element regulating the expression level and whereby the element is preferably selected from the group comprising IRES.~~

~~155. Use according to claim 152, characterised in that the transporter is a complex consisting of at least two factors and each factor is encoded by a nucleic acid, whereby both nucleic acids are each controlled by an own promoter.~~

~~156. Use according to any of claims 152 to 155, characterised in that the promoter is different from the E4 promoter, in particular from the adenoviral E4 promoter, and is different from the E1B promoter, in particular from the adenoviral E1B promoter.~~

~~157. Use according to any of claims 152 to 156, characterised in that the promoter is selected from the group comprising tissue-specific promoters, tumor-specific tumors, viral promoters, CMV-promoters, in particular adenoviral promoters, under the proviso that they are different from the E4 promoter, the E1B promoter and preferably also different from the E2-late promoter.~~

~~158. Use according to any of claims 142 to 157, characterised in that the nucleic acid coding for the transporter comprises a 3´ UTR of the E1B55k at the 3´ of the E1B55k.~~

~~159. Use according to any of claims 142 to 158, characterised in that if the lacking wildtype E1 region is E1B55k-positive, then the nucleic acid coding for the transporter does not comprise a nucleic acid coding for E1B55k.~~

~~160. Use according to any of claims 142 to 158, characterised in that the nucleic acid coding for the transporter codes for E1B55k and E1B19k.~~

~~161. Use according to claim 160, characterised in that the nucleic acid coding for the transporter also codes for protein IX.~~

~~162. Use according to claim 160 or 161, characterised in that the nucleic acid coding for E1B55k and E1B19k is under the control of a promoter.~~

~~163. Use according to claim 160 or 161, characterised in that the nucleic acid coding for E1B55k and/or E1B19k and/or protein IX is under the control of a promoter, whereby the promoter is preferably different from an E1A-dependent promoter, whereby more preferably the nucleic acid codes for E1B55k, E1B19k and protein IX.~~

~~164. Use according to any of claims 142 to 163, characterised in that the lacking functional wildtype E1 region is E1A13S-minus and/or E1A12S-minus.~~

~~165. Use according to any of claims 142 to 164, characterised in that the lacking functional wildtype E1 region is E1A13S-minus.~~

~~166. Use according to any of claims 142 to 165, characterised in that preferably the lacking wildtype E1 region is E1A13S-minus and E1A12-minus, whereby the virus comprises a nucleic acid coding for the E1A12S protein, whereby the nucleic acid is preferably a heterologuous nucleic acid.~~

~~167. Use according to claim 166, characterised in that the nucleic acid coding for the E1A12S protein is under the control of a promoter, whereby the promoter is preferably a YB-1-dependent promoter and is more preferably selected from the group comprising the E2-late promoter, tumor-specific promoters and tissue-specific promoters.~~

~~168. Use according to claim 167, characterised in that the nucleic acid(s) coding for the transporter codes/code for E4orf6 and E1B55k.~~

~~169. Use according to claim 167 or 168, characterised in that the nucleic acid coding for E1A12S and the nucleic acid coding for the protein IX are under the control of a common promoter, whereby preferably both coding nucleic acids are linked to each other through an element regulating the expression, whereby the element is more preferably selected from the group comprising IRES.~~

~~170. Use according to any of claims 166 to 169, characterised in that the nucleic acid coding for the E1A12S region and the nucleic acid coding for the protein IX are each under the control of a promoter, whereby the promoter preferably is the same promoter.~~

~~171. Use according to any of claims 169 or 170, characterised in that the promoter is a YB-1-dependent promoter, which is preferably selected from the group comprising the E2-late promoter, the MDR promoter and the DNA polymerase alpha promoter.~~

~~172. Use according to any of claims 142 to 171, in particular claim 165 to 172, characterised in that the virus comprises a nucleic acid coding for YB-1.~~

~~173. Use according to claim 172, characterised in that the nucleic acid coding for the E1A12S protein and the nucleic acid coding for the YB-1 are under the control of a common promoter, whereby both coding nucleic acids are linked to each other by an expression-regulating element, whereby the element is preferably selected from the group comprising IRES.~~

~~174. Use according to claim 172, characterised in that the nucleic acid coding for YB-1 and the nucleic acid coding for the E1A12S protein are each under the control of a promoter, whereby the promoter is preferably the same promoter.~~

~~175. Use according to any of claims 172 to 174, characterised in that the promoter is a YB-1-dependent promoter which is preferably selected from the group comprising the E2 late promoter, the MDR promoter and the DNA polymerase alpha promoter.~~

~~176. Use according to any of claims 165 to 175, characterised in that the nucleic acid coding for the E1A12S is cloned into the E3 region or the E4 region.~~

~~177. Use according to any of claims 175 to 176, characterised in that the nucleic acid coding for the E1A12S and the nucleic acid coding for protein IX or the nucleic acid coding for YB-1 are cloned into the E3 region or the E4 region.~~

~~178. Use according to any of claims 142 to 177, characterised in that the expression of the nucleic acid coding for the protein IX is controlled by a promoter different from E1B, by E1B19k or by E1A12S.~~

~~179. Use according to any of claims 142 to 178, characterised in that the virus comprises at least a transgene which is preferably cloned into the E3 region.~~

~~180. Use according to claim 179, characterised in that the virus comprises at least a transgene which is preferably cloned into the E4 region.~~

~~181. Use according to any of claims 142 to 180, whereby the virus comprises a nucleic acid coding for the RGD motif.~~

~~182. Use according to any of claims 142 to 181, further comprising the MLP gene and/or the E2A gene and E1B gene and/or E3 gene and/or E4 gene.~~

~~183. Use according to any of claims 142 to 182, characterised in that the virus is replication deficient in cells which do not contain YB-1 in the nucleus.~~

~~184. Use according to any of claims 142 to 183, characterised in that the virus is capable of replicating in cells which have YB-1 in the nucleus, in particular have YB-1 in the nucleus independent of the cell cycle.~~

~~185. Use according to any of claims 142 to 183, characterised in that the virus is capable of replicating in cells in which YB-1 is present in a deregulated manner.~~

~~186. Use according to any of claims 142 to 185, whereby the medicament further comprises at least a pharmaceutically active agent.~~

~~187. Use according to claim 186, whereby the pharmaceutically active agent is selected from the group comprising cytokines, metalloproteinases inhibitors, angiogenesis inhibitors, cytostatics, cell cycle inhibitors, proteosome inhibitors, recombinant antibodies, inhibitors to the signal transduction cascade and protein kinases.~~

~~188. Use according to any of claims 186 or 187, characterised in that the medicament comprises a combination of at least two agents, whereby each agent is individually and independently selected from the group comprising cytostatics.~~

~~189. Use according to claim 188, characterised in that at least two of the agents are targeting different target molecules.~~

~~190. Use according to claim 189, characterised in that at least two of the agents are active through a different mode of action.~~

~~191. Use according to any of claims 188 to 190, characterised in that at least one agent increases the infectability of a cell in which the virus replicates.~~

~~192. Use according to any of claims 187 to 190, characterised in that at least one agent affects the availability of a compound in the cell, preferably increases the availability of the compound, whereby the compound mediates the uptake of the virus.~~

~~193. Use according to any of claims 187 to 191, characterised in that the agent mediates the transport of YB-1 to the nucleus, preferably increases the transport of YB-1 into the nucleus.~~

~~194. Use according to any of claims 188 to 193, characterised in that at least one agent is a histone deacetylase inhibitor.~~

~~195. Use according to any of claims 192 to 194, characterised in that the histone deacetylase inhibitor is selected from the group comprising Trichostatin A, FR 901228, MS-27-275, NVP-LAQ824, PXD101 Apicidin and Scriptaid.~~

~~196. Use according to any of claims 188 to 194, characterised in that the agent is selected from the group comprising Trichostatin A, FR 901228, MS-27-275, NVP-LAQ824, PXD101 Apicidin and Scriptaid.~~

~~197. Use according to any of claims 188 to 196, characterised in that at least one agent is a topoisomerase inhibitor.~~

~~198. Use according to claim 197, characterised in that the topoisomerase inhibitor is selected from the group comprising Camptothecin, Irinotecan, Topotecan, DX-895If, SN-38, 9-aminocamptothecin, 9-nitrocamptothecin, Daunorubicn and Etoposid.~~

~~199. Use according to any of claims 186 to 188, characterised in that the agent comprises trichostatine A and irinotecan.~~

~~200. Use according to any of claims 188 to 199, characterised in that the virus, in particular a virus according to any of the preceding claims, is separated from the at least two agents.~~

~~201. Use according to claim 192, characterised in that at least one unit dosage of the virus is separated from at least one unit dosage of one of or of the at least two agents.~~