The object is solved by the subject matter as defined in the claims.

In one aspect of the disclosure, there is provided a method for the production of an influenza virus based vaccine, comprising a) infecting a permanent human amniocyte cell with an influenza virus, b) culturing the permanent human amniocyte cell, c) expression of the influenza virus, and d) isolating the influenza virus from the medium, wherein the permanent human amniocyte cell expresses the adenoviral gene products E1A and E1B.

In another aspect, there is provided the use of a permanent human amniocyte cell for the production of an influenza virus based vaccine, wherein the permanent human amniocyte cell expresses the adenoviral gene products E1A and E1B.

The figures illustrate the invention.

Figure 1 A to G shows schematically the course of different parameters during the cultivation of the permanent amniocyte cell line CAP 1D5 in 293SFMII medium (●), of the permanent amniocyte cell line CAP 1D5 in PEM medium (▲) and the permanent canine kidney cell line MDCK.SUS2 (Madin Darby Canine Kidney) in SMIF8 medium (◆) in 100 ml shake flasks. Figure 1A graphically shows the course of the viable cell concentration of the three cell lines in comparison; Fig 1B shows the course of the dead cell concentration of the cell lines; and Fig 1C shows the course of the survival rate of the cell lines. Figures 1 D to G schematically show the course of the pH value (D), the glucose (bright symbols) and lactose (dark symbols) concentration (E), glutamine (Gln) (bright symbols) and ammonium (dark symbols) concentration (F), and the glutamic acid (Glu) (bright symbols) and pyruvate (dark symbols) concentration (G).

Figure 2 shows a bar graph depicting the measured virus titers as the $TCID_{50}$value over 4 passages of the influenza strains A/PR/8/34 (H1N1) and A/Uruguay/716/2007 (H3N2) in CAP-1D5 cells 293SFMII and PEM medium. Abbreviations: A/PR 293: influenza strain A/PR/8/34 (H1N1) in CAP-1D5 cells in 293SFMII medium, A/PR PEM: influenza strain A/PR/8/34 (H1N1) in CAP-1D5 cells in PEM medium; A/Urug 293: A/Uruguay/716/2007 strain of influenza (H3N2) in CAP-1D5 cells in 293SFMII medium; A/Urug PEM: influenza strain A/Uruguay/716/2007 (H3N2) in CAP-1D5 cells in PEM medium; $TCID_{50}$value is the virus titer in number of viruses/ml, which is necessary to infect 50% of the host cells.

Figure 3 A to F shows schematically the course of the amount of virus particles specified as log HA (hemagglutinin) units/100 µl and the viable cell concentration in the culture of permanent amniocyte cells CAP-1D5 in 293SFMII-(A, B) and in PEM medium (C , D), and the permanent canine kidney cells MDCK.SUS2 in SMIF8 medium (E, F) after infection of the cells by the influenza virus strain A/PR/8/34 when using different amounts of virus indicated as MOI (multiplicity of infection) values: MOI: 0.0025 (△) MOI: 0.025 (□), MOI: 0.25 (○). MOI (multiplicity of infection) represents the ratio of the number of infectious particles to the target cells.