

Claims

1. A method for lysing cells enclosing adeno-associated virus (AAV) particles or adenovirus (AdV) particles by contacting a suspension of
5 said cells with an effective amount of a composition comprising an alkyldimethylamine oxide to promote cell lysis and release of the AAV or AdV particles from the cells.
2. A method for purifying viral particles of adeno-associated virus (AAV) or
10 adenovirus (AdV) from a sample comprising cells enclosing the viral particles by
 - a) contacting a suspension of the cells and the viral particles with an effective amount of a composition comprising an alkyldimethylamine oxide to promote cell lysis and release of the viral particles from the
15 cells
 - b) isolating and/or purifying the viral particles.
3. Method according to claim 2 characterized in that the composition
20 comprises LDAO (Lauryldimethylamine-N-Oxide) and/or TDAO (Tetradecyl Dimethylamine-N-Oxide) and sodium chloride.
4. Method according to claim 2 or claim 3, characterized in that in step a) the cells are contacted with the composition for 30 to 180 minutes.
- 25 5. Method according to one or more of claims 2 to 4, characterized in that the viral particles are recombinant adeno associated virus (AAV) particles.
- 30 6. Method according to one or more of claims 2 to 5, characterized in that the concentration of alkyldimethylamine oxide in the mixture of the suspension of the cells and the viral particles with an effective amount of a composition obtained in step a) is between 1 and 4% (w/w).

- 5 7. Method according to one or more of claims 2 to 6, characterized in that the concentration of a salt comprising a metal cation selected from K^+ , Na^+ , Li^+ , Mg^{2+} , Ca^{2+} and an anionic component selected from F^- , SO_4^{2-} , HPO_4^{2-} , acetate, Cl^- in the mixture of the suspension of the cells and the viral particles with an effective amount of a composition obtained in step a) is between 0.05 and 1 mol/l.
- 10 8. Method according to one or more of claims 2 to 7, characterized in that the composition is an aqueous solution comprising an alkyldimethylamine oxide and sodium chloride.
- 15 9. Method according to one or more of claims 2 to 8, characterized in that the concentration of the alkyldimethylamine oxide in the composition is between 10% and 30% (w/w).
- 20 10. Method according to one or more of claims 2 to 9, characterized in that the concentration of sodium chloride in the composition is between 1 and 6 mol/l.
- 25 11. Method according to one or more of claims 2 to 10, characterized in that step b) comprises a filtration and/or centrifugation step.
- 30 12. Method according to one or more of claims 2 to 11, characterized in that the method of the present invention comprises one or more of the following steps:
- Clarification and filtration
 - dialysis and diafiltration
 - treatment with nuclease, e.g. RNase and/or DNase
 - treatment with chloroform
 - ion exchange chromatography
 - affinity chromatography

- hydrophobic interaction chromatography
- centrifugation
- PEG precipitation

5 13. A composition comprising one or more alkyldimethylamine oxides and a salt comprising a metal cation selected from K^+ , Na^+ , Li^+ , Mg^{2+} , Ca^{2+} and an anionic component selected from F^- , SO_4^{2-} , HPO_4^{2-} , acetate, Cl^- .

10 14. A composition according to claim 11, characterized in that the composition is an aqueous solution comprising 10 to 30 % (w/w) TDAO and/or LDAO and 1 to 6 mol/l NaCl.

15 15. A kit comprising the composition according to claim 13 or claim 14 as well as a nuclease.

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