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(2) INFORMATION FOR SEQ ID NO:120:

     (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 22 amino acids
          (B) TYPE: amino acid
          (C) STRANDEDNESS: Not Relevant
          (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: peptide

   (iii) HYPOTHETICAL: NO

    (iv) ANTI-SENSE: NO

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:120:

Cys Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly Gly Gly Gly Arg
1               5                   10                  15

Gly Asp Ser Pro Cys Gly
            20
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We claim:

1. A method for transfecting a eukaryotic cell with a nucleic acid, said method comprising the steps of:
   (a) admixing a fusagenic peptide with a nucleic acid to form a peptide-nucleic acid complex;
   (b) adding a transfection agent to the complex from step (a) to obtain an aggregate of said transfection agent and said complex comprising said peptide-nucleic acid complex; and
   (c) contacting said eukaryotic cell with the aggregate from step (b).

2. The method of claim 1, wherein said fusagenic peptide is a peptide of a viral protein derived from a virus selected from the group consisting of an influenza virus, a vesicular stomatitis virus, and an alphavirus.

3. The method of claim 1, wherein said fusagenic peptide is a hemagglutinin of an influenza virus or a glycoprotein of a vesicular stomatitis virus.

4. The method of claim 3 wherein said fusagenic peptide is an amphiphilic peptide of a hemagglutinin of an influenza virus.

5. The method of claim 1 wherein said peptide comprises a VSVG, E5, or K5 sequence.

6. A method for transfecting a eukaryotic cell with a nucleic acid, said method comprising the steps of:
   (a) admixing a mixture of peptides with a nucleic acid to form a peptide-nucleic acid complex;
   (b) adding a transfection agent to the complex from step (a) to obtain an aggregate of said transfection agent and said complex comprising said peptide-nucleic acid complex; and
   (c) contacting said eukaryotic cell with the aggregate from step (b).

7. The method of claim 6 wherein said peptide mixture is a mixture of an amphiphilic peptide of a hemagglutinin and a fusagenic peptide.

8. The method of claim 7 wherein said peptide mixture is a mixture of VSVG and E5.

9. A method for transfecting a eukaryotic cell with a nucleic acid, said method comprising the steps of:
   (a) admixing a mixture of peptides with a nucleic acid to form a peptide-nucleic acid complex;
   (b) adding a transfection agent to the complex from step (a) to obtain an aggregate of said transfection agent and said complex comprising said peptide-nucleic acid complex; and
   (c) contacting said eukaryotic cell with the aggregate from step (b), wherein said transfection agent comprises a cationic lipid.

10. The method of claim 9 wherein said cationic lipid is a polyvalent cationic lipid.

11. The method of claim 10 wherein said polyvalent cationic lipid is 2,3-dioleyloxy-N-[2(sperminecarboxamido) ethyl]-N,N-dimethyl-1-propanaminium trifluoroacetate.

12. The method of claim 10 wherein said transfection agent is a 3:1 (w/w) mixture of the polycationic lipid2,3-dioleyloxy-N-[2(sperminecarboxamido)ethyl]-N,N-dimethyl-1-propanaminium trifluoroacetate and dioleoylphosphatidyl-ethanolamine.

13. The method of claim 9 where in step (b) a mixture of a cationic lipid and a neutral lipid is added to said complex of step (a).

14. The method of claim 13 wherein said neutral lipid is dioleoylphosphatidylethanolamine.

15. The method of claim 9 wherein said transfection agent comprises a 1:1 (W/W) mixture of 1,2-dimyristyloxypropyl-1–3-dimethylhydroxyethyl ammonium bromide) and cholesterol.

16. A composition for transfecting a eukaryotic cell produced by first forming a composition comprising a peptide-nucleic acid complex followed by addition of a cationic lipid composition which aggregates said peptide-nucleic acid complex.

17. The composition of claim 16 wherein said cationic lipid composition comprises a polycationic lipid.

18. The composition of claim 17 wherein said polycationic lipid is 2,3-dioleyloxy-N-[2(sperminecarboxamido) ethyl]-N,N-dimethyl-1-propanaminium trifluoroacetate.

19. The composition of claim 16 wherein said cationic lipid composition further comprises a neutral lipid.

20. The composition of claim 19 wherein said neutral lipid is dioleoylphosphatidylethanolamine.

21. The composition of claim 20 wherein said cationic lipid composition is a 3:1 (w/w) mixture of the polycationic lipid2,3-dioleyloxy-N-[2(sperminecarboxamido)ethyl]-N,N-dimethyl-1-propanaminium trifluoroacetate and dioleoylphosphatidyl-ethanolamine.

22. The composition of claim 16 wherein said cationic lipid composition comprises DMRIE-C which is a 1:1