In one aspect, the present disclosure refers to use of a viral gene therapy vector in the manufacture of a medicament for reducing host immune reaction to said viral gene therapy vector, wherein the viral gene therapy vector is to be administered with a viral RNA segment comprising a T cell immune-inhibitory domain for T cell Receptor (TCR)-mediated signaling in a subject, wherein said viral RNA segment comprises about 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 30, 35, 40, 45, 50, 51, 75, 100, 150, 175, 200, 225, 250, 300, 400 or 500 consecutive bases of the T cell immune-inhibitory domainIn a further example, the present invention refers to a vaccine comprising a viral RNA segment having a modification in a T cell immune-inhibitory domain. In one aspect, the present disclosure refers to use of a) an expression cassette comprising a heterologous gene segment under the control of a promoter operable in cells, b) a viral gene therapy vector, and c) a viral RNA segment comprising a T cell immune-inhibitory domain in the manufacture of a medicament for performing gene transfer, wherein said viral RNA segment comprises a nucleic acid encoding amino acid residues 603 – 619 of an HCV envelope sequence. In another aspect, the present discosure refers the use of a) an expression cassette comprising a heterologous gene segment under the control of a promoter operable in cells, b) a viral gene therapy vector; and c) a viral RNA segment comprising a T cell immune-inhibitory domain in the manufacture of a medicament for performing gene transfer, wherein said viral RNA segment comprises a nucleic acid having the sequence CTCACGCCAAGGTGCCTGATCGACTACCCCTACAGGCTCTGGCATTATCC (SEQ ID NO: 3) or CTCACGCCAAGGTGCCTGATCGACTACCCCTACAGGCTCTGGCATTACCCC (SEQ ID NO: 4).

WHAT IS CLAIMED IS:

1. Use of a viral gene therapy vector in the manufacture of a medicament for reducing host immune reaction to said viral gene therapy vector, wherein the viral gene therapy vector is to be administered with a viral RNA segment comprising a T cell immune-inhibitory domain for T cell Receptor (TCR)-mediated signaling in a subject, wherein said viral RNA segment comprises about 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 30, 35, 40, 45, 50, 51, 75, 100, 150, 175, 200, 225, 250, 300, 400 or 500 consecutive bases of the T cell immune-inhibitory domain.

2. The use of claim 1, wherein the viral RNA segment encodes HCV E2 sequences, GBV-C E2, YFV envelope or HIV gp41 sequences.

3. The use of claim 2, wherein the viral RNA segment further encodes non-HCV E2 sequences, non-GBV-C E2 sequences, non-YFV env sequences or non-HIV gp41 sequences.

4. The use of claim 1, wherein the T cell is a helper T cell suppressor T cell, or a killer T cell.

5. The use of claim 1, wherein said subject is a non-human mammal.

6. The use of claim 1, wherein said subject is a human.

7. The use of claim 1, wherein the medicament is to be administered intravenously, intra-arterially, orally, subcutaneously, topically or intraperitoneally.

8. The use of claim 1, further comprising a second anti-inflammatory agent to be administered.

9. The use of claim 8, wherein said second anti-inflammatory agent is a steroid or a COX-2 inhibitor.

10. The use of claim 8, wherein said second anti-inflammatory agent is to be administered prior to or after said viral RNA segment.

11. The use of claim 8, wherein said second anti-inflammatory agent is to be administered at the same time as said viral RNA segment.

12. The use of claim 1, wherein said gene therapy vector comprises a viral gene therapy vector.

13. The use of claim 12, wherein said viral gene therapy vector comprises an adeno-associated virus (AAV) vector.

14. The use of claim 1, wherein said viral RNA segment comprises at least one non-natural base.

15. The use of claim 1, wherein said viral RNA segment comprises a Dicer substrate.

16. The use of claim 1, wherein said viral RNA segment is to be administered at 0.1-500 mg/kg/d.

17. The use of claim 1, wherein said viral RNA segment is to be administered daily or weekly.

18. The use of claim 16, wherein said viral RNA segment is to be administered daily for 7 days, 2 weeks, 3 weeks, 4 weeks, one month, 6 weeks, 8 weeks, two months, 12 weeks, or 3 months, or weekly for 2 weeks, 3 weeks, 4 weeks, 6 weeks, 8 weeks, 10 weeks, or 12 weeks.

19. The use of claim 1, wherein said viral RNA segment is derived from any of Human Immunodeficiency Virus envelope gp120/160, Yellow Fever Virus envelope protein, Bovine Viral Diarrhea Virus envelope protein, Classical Swine Fever Virus envelope protein, influenza envelope protein, Dengue Virus envelope protein, West Nile Virus envelope protein, and Japanese Encephalitis Virus envelope protein.

20. The use of claim 1, wherein the T cell immune-inhibitory domain comprises a nucleic acid encoding amino acid residues 603 – 619 of an HCV envelope sequence.

21. The composition of claim 20, wherein said viral RNA segment is about 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 30, or 35 bases in length.

22. The composition of claim 20, wherein said viral RNA segment is fused to a non-viral sequence.

23. The composition of claim 20, is formulated for pharmaceutical administration, such as topically, cutaneously, subcutaneously, alimentrarily or parenterally.

24. Use of

a) an expression cassette comprising a heterologous gene segment under the control of a promoter operable in cells

b) a viral gene therapy vector, and

c) a viral RNA segment comprising a T cell immune-inhibitory domain

in the manufacture of a medicament for performing gene transfer, wherein said viral RNA segment comprises a nucleic acid encoding amino acid residues 603 – 619 of an HCV envelope sequence.

25. The use of claim 24, wherein said expression cassette further comprises the viral RNA segment comprising the T cell immune-inhibitory domain.

26. The use of claim 24, wherein said expression cassette comprises a viral vector.

27. The use of claim 24, wherein said viral vector comprises an adeno-associated virus (AAV) vector.

28. Use of a) an expression cassette comprising a heterologous gene segment under the control of a promoter operable in cells;

b) a viral gene therapy vector; and

c) a viral RNA segment comprising a T cell immune-inhibitory domain in the

manufacture of a medicament for performing gene transfer, wherein said viral RNA segment comprises a nucleic acid having the sequence:

CTCACGCCAAGGTGCCTGATCGACTACCCCTACAGGCTCTGGCATTATCC (SEQ ID NO: 3)

or

CTCACGCCAAGGTGCCTGATCGACTACCCCTACAGGCTCTGGCATTACCCC (SEQ ID NO: 4).

29. The use of claim 1, wherein the viral gene therapy vector is manufactured in a different medicament from the viral RNA segment.

30. The use of claim 26, wherein the viral gene therapy vector is manufactured in a medicament different from the viral RNA segment.