We claim:

1. An immunogenic composition comprising an antigen obtained or derived from a Zika virus, and a pharmaceutically acceptable buffer, wherein said antigen is rendered non-infectious through a non-natural inactivation, and wherein the composition elicits a protective immune response to Zika virus in mammals.

2. The composition according to claim 1, wherein the Zika virus is grown in Vero cells.

3. The composition according to claim 1, wherein the Zika virus is a whole virus.

4. The composition according to claim 1, wherein the non-natural inactivation was performed by exposure of the whole virus to one or more agents selected from the group consisting of a chemical inactivating agent, a physical inactivating agent and an irradiating agent.

5. The composition according to claim 4, wherein the chemical inactivating agent is selected from the group consisting of formalin (formaldehyde), beta propiolactone (BPL) and hydrogen peroxide.

6. The composition according to claim 4, wherein the irradiating agent comprises gamma irradiation or UV irradiation.

7. The composition according to claim 1, wherein the Zika virus is non-naturally inactivated by heat treatment.

8. The composition according to claim 4, wherein the Zika virus is purified and the non-natural inactivation is carried out before or after purification.

9. The composition according to claim 1, wherein the antigen comprises one or more antigens selected from Zika virus envelope (E) protein and membrane (M) protein.

10. The composition according to claim 1, wherein the antigen comprises one or more antigens selected from the group consisting of Zika virus envelope (E) protein, membrane (M) protein and non-structural 1 (NS1) protein.

11. The composition according to claim 1, wherein the antigen comprises the amino acid sequence as set forth in SEQ ID NO: 3 or SEQ ID NO: 4.

12. The composition according to claim 1, wherein the antigen comprises the amino acid sequence encoded in the nucleic acid sequence set forth in SEQ ID NO: 1 and/or SEQ ID NO: 2, or the amino acid sequence set forth in SEQ ID NO: 3 and/or SEQ ID NO: 4.

13. The composition according to claim 1, wherein the antigen is expressed as virus like particles in a prokaryotic expression system.

14. The composition according to claim 1, wherein the antigen is expressed as virus like particles in a eukaryotic expression system.

15. The composition according to claim 1, wherein the composition elicits Th1 protective immunity.

16. The composition according to claim 1, wherein the composition elicits Th2 protective immunity.

17. The composition according to claim 1, wherein the buffer is selected from the group consisting of phosphate buffer, citrate buffer, phosphate citrate buffer, borate buffer, tris(hydroxymethyl)aminomethane (Tris) containing buffer, succinate buffer, and buffers containing glycine or histidine as one of the buffering agents.

18. The composition according to claim 17, wherein phosphate buffer is sodium phosphate at concentration of 5 mM up to 200 mM of phosphate ions at a pH of 6.5 to 9.

19. The composition according to claim 18, wherein the buffer further comprises sodium chloride at a concentration of 50 mM to 200 mM.

20. The composition according to claim 1, wherein the composition further comprises an adjuvant.

21. The composition according to claim 20, wherein the adjuvant is selected from the group consisting of: (a) aluminum salts comprising aluminum hydroxide, aluminum phosphate or aluminum sulfate phosphate; (b) inulin; (c) algammulin; (d) monophosphoryl lipid A (MPL); (e) resiquimod; (f) muramyl dipeptide (MDP); (g) N-glycolyl dipeptide (GMDP); (h) polylC;

(i) CpG oligonucleotide; (j) aluminum hydroxide with MPL; (k) water in oil emulsion; (l) oil in water emulsion; and (m) a combination thereof.

22. The composition according to claim 21, wherein the composition comprises aluminum hydroxide at a concentration of 0.1 mg to 1.5 mg of aluminum per vaccine dose.

23. The composition according to claim 21, wherein the composition comprises aluminum hydroxide at a concentration of 0.25 mg to 0.5 mg aluminum per vaccine dose.

24. The composition according to claim 20, wherein the composition comprises 2-phenoxyethanol at a concentration of 2.5 to 5 mg/mL.

25. The composition according to claim 1, wherein the composition is in a liquid or a lyophilized form.

26. The composition according to claim 1, wherein the composition is in a lyophilized form.

27. The composition according to claim 1, wherein the composition is contained within pre-filled syringes, microneedle patch, needle-free patch, and/or inhalation or nasal sprays.

28. A stable immunogenic composition comprising: a recombinantly engineered antigen obtained or derived from nucleic acid of a Zika virus, and a pharmaceutically acceptable buffer, wherein the composition elicits a protective immune response to infection by Zika virus in mammals.

29. The composition according to claim 28, wherein the recombinant antigen comprises one or more antigens selected from Zika virus envelope (E) protein, membrane (M) protein, and non-structural 1 (NS1) protein.

30. The composition according to claim 28, wherein the recombinant antigen comprises the amino acid sequence encoded in the nucleic acid sequence of SEQ ID NO 1 and/or SEQ ID NO 2, or the amino acid sequence set forth in SEQ ID NO: 3 or SEQ ID NO: 4.

31. The composition according to claim 28, wherein the recombinantly engineered antigen is expressed as virus like particles in a prokaryotic expression system.

32. The composition according to claim 28, wherein the recombinantly engineered antigen is expressed as virus like particles in a eukaryotic expression system.

33. The composition according to claim 28, which elicits Th1 and/or Th2 protective immunity in the mammal.

34. The composition according to claim 28, wherein the buffer is selected from the group consisting of phosphate buffer, citrate buffer, phosphate citrate buffer, borate buffer, tris(hydroxymethyl)aminomethane (Tris) containing buffer, succinate buffer, and buffers containing glycine or histidine as one of the buffering agents.

35. The composition according to claim 34, wherein phosphate buffer is sodium phosphate at a concentration of 5 mM up to 200 mM of phosphate ions at a pH of 6.5to 9.

36. The composition according to claim 28, wherein the buffer comprises sodium chloride at a concentration of 50 mM to 200 mM.

37. The composition according to claim 28, wherein the composition comprises an adjuvant.

38. The composition according to claim 37, wherein the adjuvant is selected from the group consisting of aluminum salts comprising aluminum hydroxide, aluminum phosphate or aluminum sulfate phosphate, inulin, algammulin, monophosphoryl lipid A (MPL), resiquimod, muramyl dipeptide (MDP), N-glycolyl dipeptide (GMDP), polylC, CpG oligonucleotide, aluminum hydroxide with MPL, water in oil emulsion, oil in water emulsion, and a combination thereof.

39. The composition according to claim 37, wherein the adjuvant comprises aluminum hydroxide at a concentration of 0.1 mg to 1.5 mg of aluminum per vaccine dose.

40. The composition according to claim 37, wherein the adjuvant comprises aluminum hydroxide at a concentration of 0.25 mg to 0.5 mg aluminum per vaccine dose.

41. The composition according to claim 37, wherein the adjuvant comprises

2-phenoxyethanol at a concentration of 2.5 to 5 mg/mL.

42. The composition according to claim 28, which is aqueous or lyophilized.

43. The composition according to claim 28, which is contained within pre-filled syringes, microneedle patch, needle-free patch, and/or inhalation or nasal sprays.

44. The composition of claim 1, which is a vaccine.

45. The composition of claim 28, which is a vaccine.

46. The composition of claim 5, wherein the non-natural inactivation comprises one or more of the following treatments: formalin and/or beta propiolactone (BPL) treatment at from 1:500 to 1:4000 v/v of formalin and/or BPL at from 8°C to 37°C for 1 to 7 days; formalin and/or BPL treatment at from 1:500 to 1:4000 v/v of formalin and/or BPL at from 2°C to 8°C for 10 to 30 days; formalin and/or BPL treatment at from 1:500 to 1:4000 v/v of formalin and/or BPL at from 8°C to 30°C for 24 to 48 hours; formalin and/or BPL treatment at from 1:500 to 1:4000 v/v formalin and/or BPL at from 2°C to 8°C for 3 to 7 days; and/or hydrogen peroxide treatment at from 0.1 to 3% v, at from 20 to 30°C for 5 minutes to 120 minutes.

47. The composition of claim 6, wherein the gamma irradiation or UV irradiation comprises gamma irradiation exposure from 20 kGy (kilo Gray) to 35 kGy, or from 25 kGy to 30 kGy, from a cobalt source.

48. The composition of claim 6, wherein the gamma irradiation or UV irradiation comprises UV irradiation for 30 to 60 minutes.

49. The composition of claim 7, wherein the heat treatment is from 50°C to 65°C for 30 minutes to 2 hours.

50. The composition of claim 1, wherein the non-natural inactivation was carried out in the presence of a stabilizing agent selected from the group consisting of lactose, sucrose, trehalose, maltose, mannose, iso-maltose, raffinose, stachyose, lactobiose, sorbitol, mannitol, lactobionic acid, dextran, L-glycine, L-histidine, L-glutamic acid, L-aspartic acid, human serum albumin and combinations thereof.

51. The composition of claim 1, wherein the non-natural inactivation was

carried out in the presence of a stabilizing agent selected from the group consisting of: 2% sorbitol and 1% L-glycine; 1% sorbitol and 0.5% L-glycine; 1% mannitol and 0.5% L-glycine; 1% mannitol and 0.5% L-glutamic acid; and/or 1% sorbitol and 0.5% L-glycine plus 1% human serum albumin.

52. The stable immunogenic composition of claim 28, wherein the recombinantly engineered antigen is subjected to non-natural inactivation.

53. An immunogenic composition comprising an antigen obtained or derived from a Zika virus, and a pharmaceutically acceptable buffer, wherein: said antigen is rendered non-infectious through non-natural inactivation and/or is recombinantly engineered from the nucleic acid of a Zika virus; and said antigen contains the amino acid sequence of SEQ ID NO 3 and/or SEQ ID NO 4.

54. The composition of claim 53, which is a vaccine.