CLAIMS:

1. An expression cassette comprising;

i. a flavivirus structural gene, ~~and~~

ii. a furin gene, and

iii. a bicistronic expression element positioned between the flavivirus structural gene and the furin gene, wherein:

i) the flavivirus structural gene comprises a partial capsid protein (delC), a complete membrane precursor (prM) protein coding sequence and a complete envelope (Env) protein coding sequence, wherein the delC coding sequence comprises the C-terminal anchor containing the signal sequence for prM; or

ii) wherein the flavivirus structural gene comprises a partial capsid protein (delC), a membrane (p7) protein coding sequence and complete envelope (E1 and E2) protein coding sequences, wherein the delC protein coding sequence comprises the C-terminal anchor containing the signal sequence to E1.

~~2. The expression cassette according to claim 1, comprising a bicistronic expression element positioned between the flavivirus structural gene and the furin gene~~

~~3~~2. The expression cassette according to claim 1 ~~or 2~~, wherein the bicistronic expression element is selected from the group comprising an internal ribosome entry site (IRES) and F2A.

~~4. The expression cassette according to any one of claims 1 to 3, wherein the flavivirus structural gene comprises a partial capsid protein (delC), a complete membrane precursor (prM) protein coding sequence and a complete envelope (Env) protein coding sequence.~~

~~5. The expression cassette according to any one of claims 1 to 3, wherein the flavivirus structural gene comprises a partial capsid protein (delC), a membrane (p7) protein coding sequence and complete envelope (E1 and E2) protein coding sequences.~~

~~6~~3. The expression cassette according to ~~any one of claims 1 to 5~~claim 1 or 2, wherein the furin gene comprises a furin signal peptide (fsp) and a furin proprotein coding sequence.

~~7~~4. The expression cassette according to any one of claims 1 to ~~3~~6, further comprising a partial capsid protein (delC) coding sequence, wherein the delC protein coding sequence comprises the C-terminal anchor sequence containing the signal sequence for prM or E1, fused in frame to the 5’ end of the furin signal peptide coding sequence.

~~8~~5. The expression cassette according to any one of claims 1 to ~~4~~7, wherein the delC protein does not contain the first 108 nucleotides of the capsid protein coding sequence.

~~9~~6. The expression cassette according to any one of claims 1 to ~~5~~8, comprising a promoter to drive transcription of the expression cassette.

~~10~~7. The expression cassette according to any one of claims 1 to ~~6~~9, comprising a polyA signal sequence positioned at the 3' end of the furin gene.

~~11~~8. The expression cassette according to claim ~~10~~7, wherein the polyA signal sequence is a SV40 late polyA signal sequence.

~~12~~9. The expression cassette according to any one of claims 1 to ~~8~~11, wherein the furin gene is selected from the group comprising human, non-human mammal or insect furin gene.

~~13~~10. The expression cassette according to claim ~~12~~9, wherein the furin gene is human.

~~14~~11. The expression cassette according to any one of claims 1 to ~~13~~10, wherein the flavivirus structural gene and the furin gene are codon-optimised for expression in insect cells.

~~15. The expression cassette according to any one of claims 1 to 13, wherein the flavivirus structural gene and the furin gene are codon-optimised for expression in mammalian cells~~

~~16. The expression cassette according to any one of claims 1 to 15, further comprising a promoter, a flavivirus NS1 gene and a polyA signal sequence on the complementary DNA strand upstream of the flavivirus structural gene-IRES- furin proprotein sequences.~~

~~17. The expression cassette according to claim 16, wherein the promoter is baculovirus AcMNPV p10 promoter.~~

~~18. The expression cassette according to claim 16 or 17, wherein the polyA signal sequence is *Herpes Simplex virus* thymidine kinase (HSV tk) polyA signal sequence.~~

~~19~~12. The expression cassette according to any one of claims 1 to 11~~18~~, wherein the flavivirus is selected from at least one of the group comprising Dengue virus, Zika virus, Yellow fever virus, West Nile virus and Japanese encephalitis virus and serotypes thereof.

~~20~~13. The expression cassette according to any one of claims 1 to 11~~18~~, wherein the flavivirus is Hepatitis C virus.

~~21~~14. The expression cassette according to claim ~~19~~12, wherein the flavivirus is selected from at least one of the group comprising Dengue virus serotype 1, Dengue virus serotype 2, Dengue virus serotype 3, Dengue virus serotype 4 and Zika virus.

~~22~~15. The expression cassette according to claim ~~21~~14, wherein the Dengue virus serotype is DENV2.

~~23~~16. The expression cassette according to any one of claims ~~4~~7 to 15~~22~~, wherein the cassette is homologous or heterologous with respect to the partial capsid protein delC.

~~24~~17. The expression cassette according to claim ~~23~~16, wherein the cassette is heterologous and comprises a Dengue virus delC coding sequence and a ZIKA virus delC coding sequence.

~~25~~18. An expression cassette according to any one of claims 1 to 17~~24~~, comprising a nucleic acid sequence selected from the group comprising SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 9 SEQ ID NO: 10, SEQ ID NO: 11, SEQ ID NO: 12, SEQ ID NO: 13 and SEQ ID NO: 14.

~~26. Use of an expression cassette according to any one of claims 1 to 25 for the recombinant production of secreted virus proteins.~~

~~27. Use of an expression cassette according to any one of claims 1 to 25 for the recombinant production of virus-like particles (VLPs).~~

~~28~~19. A method for the production of recombinant secreted flavivirus structural proteins and/or VLPs comprising the steps: cultivating a eukaryotic cell that has been transfected with a plasmid containing an expression cassette as defined in any one of claims 1 to 18~~25~~, and recovering the recombinant secreted virus structural proteins and/or VLPs from the cell or the cultivation medium.

~~29~~20. The method according to claim 19~~28~~, wherein the eukaryotic cell has been infected with a recombinant baculovirus expressing said expression cassette.

~~30~~21. The method according to claim ~~28~~19, wherein the eukaryotic cell is selected from:

i) a mammalian cell;

ii) a Chinese hamster ovary cell or human kidney cell;

iii) an insect cell, or

iv) a Sf9 insect cell from *Spodoptera frugiperda*.

~~31. The method according to claim 30, wherein the mammalian cell is Chinese hamster ovary of human kidney.~~

~~32. The method according to claim 29, wherein the eukaryotic cell is an insect cell.~~

~~33. The method according to claim 32, wherein the insect cell is Sf9 from *Spodoptera frugiperda*.~~

~~34. At least one isolated recombinant secreted flavivirus structural protein and/or VLP produced by the method of any one of claims 28 to 33.~~

~~35. A vaccine comprising at least one recombinant secreted flavivirus structural protein and/or VLP produced by the method according to any one of claims 28 to 33.~~

~~36. The vaccine according to claim 35, wherein the at least one recombinant secreted flavivirus structural protein and/or VLP comprises neutralizing epitopes from Dengue virus serotypes 1, 2, 3 and/or 4.~~

~~37. The vaccine according to claim 35, wherein the at least one recombinant secreted flavivirus structural protein and/or VLP comprises Zika virus neutralizing epitopes.~~

~~38. The vaccine according to claim 35, wherein the at least one recombinant secreted flavivirus structural protein and/or VLP comprises Yellow fever virus neutralizing epitopes~~

~~39. The vaccine according to claim 35, wherein the at least one recombinant secreted flavivirus structural protein and/or VLP comprises Hepatitis C virus neutralizing epitopes~~

~~40. A method of treatment or prophylaxis comprising administering to a subject in need of such treatment or prophylaxis an efficacious amount of vaccine defined in any one of claims 35 to 39.~~

~~41. Use of at least one isolated recombinant secreted flavivirus structural protein and/or VLP as defined in claim 34 or a vaccine as defined in any one of claims 35 to 39 for the manufacture of a medicament for the treatment or prophylaxis of a flavivirus infection.~~

~~42. The use according to claim 41, wherein the flavivirus is selected from at least one of the group comprising Dengue virus, Zika virus and Yellow fever virus.~~

~~43. The use according to claim 41, wherein the flavivirus is Hepatitis C.~~