CLAIMS:

1. A chimeric protein comprising a ~~Calici~~Norovirus capsid protein having a P2 domain and at least one heterologous antigen or fragment thereof, wherein said at least one heterologous antigen or fragment thereof is inserted into said P2 domain of said capsid protein, wherein the heterologous antigen or fragment thereof is not from any Calicivirus, and wherein said chimeric protein is capable of forming virus-like particles when expressed in a host cell.

2. The chimeric protein of claim 1, wherein said at least one heterologous antigen or fragment thereof is inserted into at least one solvent-exposed loop of said P2 domain.

~~3. The chimeric protein of claim 2, wherein said at least one heterologous antigen or fragment thereof replaces at least one amino acid of said capsid protein.~~

~~4. The chimeric protein of claim 3, wherein said at least one heterologous antigen or fragment thereof replaces about 2 to about 50 amino acids of said capsid protein.~~

~~5. The chimeric protein of claim 4, wherein said at least one heterologous antigen or fragment thereof replaces about 4 to about 20 amino acids of said capsid protein.~~

~~6. The chimeric protein of claim 5, wherein said at least one heterologous antigen or fragment thereof replaces about 5 amino acids of said capsid protein.~~

~~7. The chimeric protein of claim 1, wherein said Calicivirus is a Norovirus.~~

~~8~~3. The chimeric protein of claim ~~7~~ 1, wherein said capsid protein is VP1.

~~9~~4. The chimeric protein of claim ~~8~~ 3, wherein said capsid protein has an amino acid sequence of SEQ ID NO: 1.

~~10~~5. The chimeric protein of claim ~~9~~ 4, wherein said at least one heterologous antigen or fragment thereof is inserted directly into SEQ ID NO: 1 after the asparagine residue at position 295, the glycine residue at position 296, the proline residue at position 308, the glycine residue at position 336, the serine residue at position 338, the asparagine residue at position 362, the glycine residue at position 363, the proline residue at position 382, the serine residue at position 383, the isoleucine residue at position 399, or the alanine residue at position 402.

~~11~~6. The chimeric protein of claim ~~9~~ 4, wherein said at least one heterologous antigen or fragment thereof replaces amino acids 294-298, amino acids 307-311, amino acids 337-341, amino acids 362-366, amino acids 381-385, or amino acids 401-405 of SEQ ID NO: 1.

~~12~~7. The chimeric protein of claim ~~7~~ 1, wherein said capsid protein is a composite capsid protein that incorporates amino acid sequences ~~derived~~ from two or more circulating strains of Norovirus.

~~13~~8. The chimeric protein of claim ~~12~~ 7, wherein said composite capsid protein has an amino acid sequence of SEQ ID NO: 2.

~~14~~9. The chimeric protein of claim ~~7~~ 1, where said Norovirus is a Genogroup I or Genogroup II Norovirus.

~~15~~10. The chimeric protein of claim ~~14~~ 9, wherein said Norovirus is a Genogroup I, genotype I Norovirus or Genogroup II, genotype 4 Norovirus.

~~16. The chimeric protein of claim 1, wherein said at least one heterologous antigen or fragment thereof is from about 5 to about 70 amino acids in length.~~

~~17~~11. The chimeric protein of claim ~~16~~, wherein said at least one heterologous antigen or fragment thereof comprises an antigenic epitope.

~~18~~12. The chimeric protein of claim 1, wherein said at least one heterologous antigen or fragment thereof is ~~derived~~ from a virus, bacteria, eukaryotic pathogen, tumor-associated antigen, or allergen.

~~19~~13. The chimeric protein of claim ~~18~~ 12, wherein said at least one heterologous antigen or fragment thereof is ~~derived~~ from a virus selected from the group consisting of rotavirus, respiratory syncytial virus, parainfluenza virus, and metaneumovirus.

~~20~~14. A virus-like particle comprising the chimeric protein of claim 1.

~~21~~15. A vaccine formulation comprising the virus-like particle of claim ~~20~~ 14.

~~22~~16. The vaccine formulation of claim ~~21~~ 15 further comprising an adjuvant.

~~23~~17. An isolated nucleic acid encoding the chimeric protein of claim 1.

~~24~~18. A vector comprising the isolated nucleic acid of claim ~~23~~ 17.

~~25~~19. An isolated host cell comprising the vector of claim ~~24~~ 18.

~~26~~20. The isolated host cell of claim ~~25~~ 19, wherein the host cell is a bacterial cell, an insect cell, a yeast cell, or a mammalian cell.

~~27~~21. A method of making a chimeric virus-like particle comprising:
expressing the chimeric protein of claim 1 in a host cell; and
growing said host cell in conditions in which virus-like particles are formed.

~~28~~22. The method of claim ~~27~~ 21, wherein said at least one heterologous antigen or fragment thereof is fused to at least one solvent-exposed loop of said P2 domain.

~~29. The method of claim 28, wherein said at least one heterologous antigen or fragment thereof replaces at least one amino acid of said capsid protein.~~

~~30. The method of claim 29, wherein said at least one heterologous antigen or fragment thereof replaces between 1 and about 50 amino acids of said capsid protein.~~

~~31. The method of claim 30, wherein said at least one heterologous antigen or fragment thereof replaces about 4 to about 20 amino acids of said capsid protein.~~

~~32. The method of claim 31, wherein said at least one heterologous antigen or fragment thereof replaces about 5 amino acids of said capsid protein.~~

~~33. The method of claim 27, wherein said at least one heterologous antigen or fragment thereof is from about 5 to about 70 amino acids in length.~~

~~34~~23. The method of claim ~~33~~ 21, wherein said at least one heterologous antigen or fragment thereof comprises an antigenic epitope.

~~35. The method of claim 27, wherein said Calicivirus is a Norovirus.~~

~~36~~24. The method of claim ~~35~~ 21, where said Norovirus is a Genogroup I or Genogroup II Norovirus.

~~37~~25. The method of claim ~~36~~ 24, wherein said Norovirus is a Genogroup I, genotype I Norovirus or a Genogroup II, genotype 4 Norovirus.

~~38. A method of inducing an immune response to a foreign agent comprising administering the vaccine formulation of claim 21 to a subject, wherein the at least one heterologous antigen or fragment thereof is derived from a protein from the foreign agent.~~

26. The vaccine formulation of claim 15, for use in a method of inducing an immune response to a foreign agent, wherein the vaccine formulation is for administering to a subject and the at least one heterologous antigen or fragment thereof is from a protein from the foreign agent.

27. Use of the virus-like particle of claim 14, for the preparation of a vaccine formulation for inducing an immune response to a foreign agent, wherein the vaccine formulation is for administering to a subject and the at least one heterologous antigen or fragment thereof is from a protein from the foreign agent.