CLAIMS

1. A panel of two or more polypeptides of up to 50 amino acids in length, wherein each polypeptide comprises a different amino acid sequence selected from SEQ ID NOs: 1 to 17.

2. The panel of polypeptides of claim 1, wherein each polypeptide consists of a fragment of a Coronaviridae protein.

3. The panel of polypeptides of claim 2, wherein each polypeptide consists of a fragment of a SARS-CoV-2 protein.

4. The panel of polypeptides of any one of claims 1 to 3, wherein each polypeptide comprises an amino acid sequence selected from SEQ ID NOs: 1 to 17 that is a fragment of a different Coronaviridae or SARS-CoV-2 protein.

5. The panel of polypeptides of any one of claims 1 to 4, wherein the panel of polypeptides includes at least one sequence from at least two, three or all four of the following groups:

(a) SEQ ID NOs: 1 to 11;

(b) SEQ ID NOs: 12 to 15;

(c) SEQ ID NO: 16; and

(d) SEQ ID NO: 17.

6. The panel of polypeptides of claim 5, wherein the panel comprises ten polypeptides comprising or consisting of the amino acid sequences of SEQ ID NOs: 2, 5, 7, 9, 12, 13, 14, 15, 16, and 17.

7. The panel of polypeptides of claim 5, wherein the panel comprises nine polypeptides comprising or consisting of the amino acid sequences of SEQ ID NOs: 2, 5, 9, 12, 13, 14, 15, 16, and 17.

8. A pharmaceutical composition or kit having the panel of polypeptides according to claim any one of claims 1 to 7 as active ingredients.

9. The pharmaceutical composition or kit of claim 8, comprising polynucleic acid, ribonucleic acid, or one or more vectors or cells that together encode each of the polypeptides.

10. The pharmaceutical composition or kit of claim 9, comprising one or more polynucleotides or polyribonucleotides comprising at least two sequences selected from SEQ ID NOs: 234 to 251 or 252 to 268.

11. A method of vaccination, providing immunotherapy or inducing immune responses in a subject, the method comprising administering to the subject the panel of polypeptides of any one of claims 1 to 7 or the pharmaceutical composition of any one of claims 8 to 10.

12. The method of claim 11 that is a method of treating a Coronaviridae infection or a disease or condition associated with a Coronaviridae infection in the subject.

13. The method of claim 12 that is a method of treating a SARS-CoV-2 infection or COVID-19 disease in the subject.

14. The method of claim 11 that is a method of preventing a Coronaviridae infection or the development of a disease or condition associated with Coronaviridae infection in the subject.

15. The method of claim 14 that is a method of preventing a SARS-CoV-2 infection or development of COVID-19 disease in the subject.

16. The method of any one of claims 11 to 15, wherein one or more of the polypeptides comprises a fragment of a Coronaviridae protein that is a CD8+ T cell epitope predicted to be restricted to at least two HLA class I alleles of the subject.

17. The method of claim 16, wherein one or more of the polypeptides comprises a fragment of a Coronaviridae protein that is a CD4+ T cell epitope predicted to be restricted to at least two HLA class II alleles of the subject.

18. The method of any one of claims 11 to 17, wherein one or more of the polypeptides comprises a linear B cell epitope.