

CLAIMS

1. An isolated antibody or antigen-binding fragment thereof that binds a SARS-CoV-2 spike protein comprising the amino acid sequence set forth in SEQ ID NO: 832, wherein said isolated antibody or antigen-binding fragment comprises a heavy chain variable region (HCVR) comprising the amino acid sequence set forth in SEQ ID NO: 202, and a light chain variable region (LCVR) comprising the amino acid sequence set forth in SEQ ID NO: 210.

2. The isolated antibody or antigen-binding fragment thereof of claim 1, which comprises:

- (a) an immunoglobulin constant region;
- (b) an IgG1 constant region; or
- (c) a human IgG1 constant region.

3. The isolated antibody or antigen-binding fragment thereof of claim 1 or claim 2, which comprises a heavy chain comprising the amino acid sequence set forth in SEQ ID NO: 216.

4. The isolated antibody or antigen-binding fragment thereof of any one of claims 1-3, which comprises a light chain comprising the amino acid sequence set forth in SEQ ID NO: 218.

5. The isolated antibody or antigen-binding fragment thereof of any one of claims 1-4, wherein said antibody or antigen-binding fragment:

- (a) is multispecific; and/or
- (b) is a recombinant antibody or antigen-binding fragment.

6. A pharmaceutical composition, comprising:

- i) the isolated antibody or antigen-binding fragment thereof of any one of claims 1-5;
- and
- ii) a pharmaceutically acceptable carrier or diluent.

7. An isolated antibody or antigen-binding fragment thereof that binds a SARS-CoV-2 spike protein comprising the amino acid sequence set forth in SEQ ID NO: 832, wherein

said isolated antibody or antigen-binding fragment comprises a heavy chain variable region (HCVR) comprising the amino acid sequence set forth in SEQ ID NO: 640, and a light chain variable region (LCVR) comprising the amino acid sequence set forth in SEQ ID NO: 646.

8. The isolated antibody or antigen-binding fragment of claim 7, which comprises:

- (a) an immunoglobulin constant region;
- (b) an IgG1 constant region; or
- (c) a human IgG1 constant region.

9. The isolated antibody or antigen-binding fragment of claim 7 or claim 8, which comprises a heavy chain comprising the amino acid sequence set forth in SEQ ID NO: 654.

10. The isolated antibody or antigen-binding fragment of any one of claims 7-9, which comprises a light chain comprising the amino acid sequence set forth in SEQ ID NO: 656.

11. The isolated antibody or antigen-binding fragment thereof of any one of claims 7-10, wherein said antibody or antigen-binding fragment:

- (a) is multispecific; and/or
- (b) is a recombinant antibody or antigen-binding fragment.

12. A pharmaceutical composition, comprising:

- i) the isolated antibody or antigen-binding fragment thereof of any one of claims 7-11; and
- ii) a pharmaceutically acceptable carrier or diluent.

13. A polynucleotide encoding a heavy chain variable region (HCVR) of an antibody or antigen-binding fragment thereof that binds a SARS-CoV-2 spike protein comprising the amino acid sequence set forth in SEQ ID NO: 832, wherein said HCVR comprises the amino acid sequence set forth in SEQ ID NO: 202.

14. The polynucleotide of claim 13, wherein said polynucleotide comprises an HCVR nucleic acid sequence set forth in SEQ ID NO: 201.

15. The polynucleotide of claim 13, wherein said antibody further comprises an immunoglobulin constant region.
16. The polynucleotide of claim 15, wherein said immunoglobulin constant region is an IgG1 constant region.
17. The polynucleotide of claim 13, wherein said antibody comprises a heavy chain amino acid sequence set forth in SEQ ID NO: 216.
18. The polynucleotide of claim 13, wherein said polynucleotide comprises a heavy chain nucleic acid sequence set forth in SEQ ID NO: 215.
19. The polynucleotide of claim 13, wherein said polynucleotide is an RNA polynucleotide.
20. A vector or lipid nanoparticle comprising the polynucleotide of claim 13.
21. The vector of claim 20, wherein said vector is a lentivirus vector or an adeno-associated virus vector.
22. A polynucleotide encoding a light chain variable region (LCVR) of an antibody or antigen-binding fragment thereof that binds a SARS-CoV-2 spike protein comprising the amino acid sequence set forth in SEQ ID NO: 832, wherein said LCVR comprises the amino acid sequence set forth in SEQ ID NO: 210.
23. The polynucleotide of claim 22, wherein said polynucleotide comprises an LCVR nucleic acid sequence set forth in SEQ ID NO: 209.
24. The polynucleotide of claim 22, wherein said antibody comprises a light chain amino acid sequence set forth in SEQ ID NO: 218.
25. The polynucleotide of claim 24, wherein said polynucleotide comprises a light chain nucleic acid sequence set forth in SEQ ID NO: 217.
26. The polynucleotide of claim 22, wherein said polynucleotide is an RNA polynucleotide.

27. A vector or lipid nanoparticle comprising the polynucleotide of claim 22.
28. The vector of claim 27, wherein said vector is a lentivirus vector or an adeno-associated virus vector.
29. A polynucleotide encoding a heavy chain variable region (HCVR) of an antibody or antigen-binding fragment thereof that binds a SARS-CoV-2 spike protein comprising the amino acid sequence set forth in SEQ ID NO: 832, wherein said HCVR comprises the amino acid sequence set forth in SEQ ID NO: 640.
30. The polynucleotide of claim 29, wherein said polynucleotide comprises an HCVR nucleic acid sequence set forth in SEQ ID NO: 639.
31. The polynucleotide of claim 29, wherein said antibody further comprises an immunoglobulin constant region.
32. The polynucleotide of claim 31, wherein said immunoglobulin constant region is an IgG1 constant region.
33. The polynucleotide of claim 29, wherein said antibody comprises a heavy chain amino acid sequence set forth in SEQ ID NO: 654.
34. The polynucleotide of claim 29, wherein said polynucleotide comprises a heavy chain nucleic acid sequence set forth in SEQ ID NO: 653.
35. The polynucleotide of claim 29, wherein said polynucleotide is an RNA polynucleotide.
36. A vector or lipid nanoparticle comprising the polynucleotide of claim 29.
37. The vector of claim 36, wherein said vector is a lentivirus vector or an adeno-associated virus vector.
38. A polynucleotide encoding a light chain variable region (LCVR) of an antibody or antigen-binding fragment thereof that binds a SARS-CoV-2 spike protein comprising

the amino acid sequence set forth in SEQ ID NO: 832, wherein said LCVR comprises the amino acid sequence set forth in SEQ ID NO: 646.

39. The polynucleotide of claim 38, wherein said polynucleotide comprises an LCVR nucleic acid sequence set forth in SEQ ID NO: 645.

40. The polynucleotide of claim 38, wherein said antibody comprises a light chain amino acid sequence set forth in SEQ ID NO: 656.

41. The polynucleotide of claim 40, wherein said polynucleotide comprises a light chain nucleic acid sequence set forth in SEQ ID NO: 655.

42. The polynucleotide of claim 38, wherein said polynucleotide is an RNA polynucleotide.

43. A vector or lipid nanoparticle comprising the polynucleotide of claim 38.

44. The vector of claim 43, wherein said vector is a lentivirus vector or an adeno-associated virus vector.