Claims

What is claimed is:

1. An isolated antibody, or antigen-binding fragment thereof, which specifically binds to the spike protein of a coronavirus ("CoV-S"), wherein said antibody, or antigen-binding fragment thereof, comprises a heavy chain variable region (VH) comprising a VH CDR1 comprising SEQ ID NO:22304, a VH CDR2 comprising SEQ ID NO:22306, and a VH CDR3 comprising SEQ ID NO:22308, and a light chain variable region (VL) comprising a VL CDR1 comprising SEQ ID NO:22314, a VL CDR2 comprising SEQ ID NO:22316, and a VL CDR3 comprising SEQ ID NO:22318.

2. The isolated antibody, or antigen-binding fragment thereof, of claim 1, wherein the VH comprises SEQ ID NO:22302 and the VL comprises SEQ ID NO:22312.

3. The isolated antibody, or antigen-binding fragment thereof, of claim 2, wherein the VH consists of SEQ ID NO:22302 and the VL consists of SEQ ID NO:22312.

4. The isolated antibody, or antigen-binding fragment thereof, of claim 1, wherein the CoV-S is the spike protein of SARS-CoV ("SARS-CoV-S") or the spike protein of SARS-CoV-2 ("SARS-CoV-2-S").

5. The isolated antibody, or antigen-binding fragment thereof, of claim 1, wherein the antibody, or antigen-binding fragment thereof, cross-reacts with SARS-CoV-S and SARS-CoV-2-S.

6. The isolated antibody, or antigen-binding fragment thereof, of claim 5, wherein SARS-CoV-S comprises an amino acid sequence of SEQ ID NO:1, and wherein SARS-CoV-2-S comprises an amino acid sequence of SEQ ID NO:5.

7. The isolated antibody, or antigen-binding fragment thereof, of claim 1, which neutralizes SARS-CoV and/or SARS-CoV-2.

8. The isolated antibody, or antigen-binding fragment thereof, of claim 7, which neutralizes SARS-CoV and/or SARS-CoV-2 with an IC50 of about 100 nM or lower.

9. The isolated antibody, or antigen-binding fragment thereof, of claim 1, which binds to SARS-CoV-S with a KD value of about 100 nM or lower.

10. The isolated antibody, or antigen-binding fragment thereof, of claim 1, wherein the antibody is human, humanized, primatized, chimeric, bispecific or multispecific.

11. The isolated antibody, or antigen-binding fragment thereof, of claim 1, wherein the antigen-binding fragment thereof comprises a Fab, Fab2, or scFv.

12. A pharmaceutical composition comprising the antibody, or antigen-binding fragment thereof, of any one of claims 1-11, and a pharmaceutically acceptable carrier.

13. Use of an antibody, or antigen-binding fragment thereof in the manufacture of a medicament for treating an infection of a subject by a coronavirus, wherein the antibody, or antigen-binding fragment thereof binds to a spike protein of the coronavirus, wherein the antibody, or antigen-binding fragment thereof, comprises
a heavy chain variable region (VH) comprising a VH complementarity-determining region 1 (CDR1) comprising SEQ ID NO:22304, a VH complementarity-determining region 2 (CDR2) comprising SEQ ID NO:22306, and a VH complementarity-determining region 3 (CDR3) comprising SEQ ID NO:22308; and
a light chain variable region (VL) comprising a VL CDR1 comprising SEQ ID NO:22314, a VL CDR2 comprising SEQ ID NO:22316, and a VL CDR3 comprising SEQ ID NO:22318.

14. The use of claim 13, wherein the VH comprises SEQ ID NO:22302 and the VL comprises SEQ ID NO:22312.

15. The use of claim 14, wherein the VH consists of SEQ ID NO:22302 and the VL consists of SEQ ID NO:22312.

16. The use of any one of claims 13-15, wherein the subject is a human subject.

17. The use of any one of claims 13-16, wherein the subject has at least one risk factor which renders them more prone to a poor clinical outcome.

18. The use of claim 17, wherein the at least one risk factor is selected from the group consisting of: an old age selected from the group consisting of over 55, over 60 or over 65 years old; diabetes; a

chronic respiratory condition; obesity; hypertension; a cardiac or cardiovascular condition; a chronic inflammatory or autoimmune condition; and an immune compromised status.

19. The use of any one of claims 13-15, wherein the antibody, or the antigen-binding fragment thereof, is to be administered intramuscularly or intravenously.

20. The use of any one of claims 13-15, wherein the antibody, or the antigen-binding fragment thereof, is to be administered at a dose of 300 mg to 1200 mg.

21. The use of any one of claims 13-15, wherein the antibody, or antigen-binding fragment thereof, is to be administered once or is administered weekly.

22. The use of any one of claims 13-15, wherein the coronavirus is SARS-CoV or SARS-CoV-2.