CLAIMS

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. An isolated antibody, or antigen-binding fragment thereof, that binds to human MASP-3 comprising:

a heavy chain variable region comprising a HC-CDR1 set forth as SEQ ID NO:213 (SYGXX, wherein X at position 4 is M or I and wherein X at position 5 is S or T); a HC-CDR2 set forth as SEQ ID NO:74 (WINTYSGVPTYADDFKG); and a HC-CDR3 set forth as SEQ ID NO:214 (GGXAXDY, wherein X at position 3 is E or D and wherein X at position 5 is M or L); and a light chain variable region comprising a LC-CDR1 set forth as SEQ ID NO:215 (KSSQSLLDSXXKTYLX , wherein X at position 10 is D, E or A; wherein X at position 11 is G or A; and wherein X at position 16 is N or S); a LC-CDR2 set forth as SEQ ID NO:155 (LVSKLDS); and a LC-CDR3 set forth as SEQ ID NO:216 (WQGTHFPXT), wherein X at position 8 is W or Y.

2. The isolated antibody, or antigen-binding fragment thereof of Claim 1, wherein HC-CDR1 comprises SEQ ID NO:72 (SYGMS).

3. The isolated antibody, or antigen-binding fragment thereof of Claim 1, wherein HC-CDR1 comprises SEQ ID NO:79 (SYGIT).

4. The isolated antibody, or antigen-binding fragment thereof of Claim 1, wherein HC-CDR3 comprises SEQ ID NO:76 (GGEAMDY).

5. The isolated antibody, or antigen-binding fragment thereof of Claim 1, wherein HC-CDR3 comprises SEQ ID NO:82 (GGDALDY).

6. The isolated antibody, or antigen-binding fragment thereof of Claim 1, wherein the LC-CDR1 comprises SEQ ID NO:153 (KSSQSLLDSDGKTYLN).

7. The isolated antibody, or antigen-binding fragment thereof of Claim 1, wherein the LC-CDR1 comprises SEQ ID NO:261 (KSSQSLLDSEGKTYLN).

8. The isolated antibody, or antigen-binding fragment thereof of Claim 1, wherein the LC-CDR1 comprises SEQ ID NO:262 (KSSQSLLDSAGKTYLN).

9. The isolated antibody, or antigen-binding fragment thereof of Claim 1, wherein the LC-CDR1 comprises SEQ ID NO:263 (KSSQSLLDSDAKTYLN).

10. The isolated antibody, or antigen-binding fragment thereof of Claim 1, wherein the LC-CDR1 comprises SEQ ID NO:159 (KSSQSLLDSDGKTYLS).

11. The isolated antibody or antigen-binding fragment thereof of Claim 1, wherein the LC-CDR3 comprises SEQ ID NO:157 (WQGTHFPWT).

12. The isolated antibody, or antigen-binding fragment thereof of Claim 1, wherein the LC-CDR3 comprises SEQ ID NO:160 (WQGTHFPYT).

13. The isolated antibody, or antigen-binding fragment thereof of Claim 1, wherein the HC-CDR1 comprises SEQ ID NO:72, the HC-CDR2 comprises SEQ ID NO:74, the HC-CDR3 comprises SEQ ID NO:76, the LC-CDR1 comprises SEQ ID NO:153, the LC-CDR2 comprises SEQ ID NO:155 and the LC-CDR3 comprises SEQ ID NO:157.

14. The isolated antibody or antigen-binding fragment thereof of Claim 1, wherein the HC-CDR1 comprises SEQ ID NO:72, the HC-CDR2 comprises SEQ ID NO:74, the HC-CDR3 comprises SEQ ID NO:76, the LC-CDR1 comprises SEQ ID NO:263, the LC-CDR2 comprises SEQ ID NO:155 and the LC-CDR3 comprises SEQ ID NO:157.

15. The isolated antibody, or antigen-binding fragment thereof of Claim 1, wherein the HC-CDR1 comprises SEQ ID NO:79, the HC-CDR2 comprises SEQ ID NO:74, the HC-CDR3 comprises SEQ ID NO:82, the LC-CDR1 comprises SEQ ID NO:159, the LC-CDR2 comprises SEQ ID NO:155 and the LC-CDR3 comprises SEQ ID NO:160.

16. The isolated antibody, or antigen-binding fragment thereof of Claim 1, wherein the heavy chain variable region comprises an amino acid sequence selected from the group consisting of SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:251 and SEQ ID NO:252.

17. The isolated antibody or antigen-binding fragment thereof of claim 1, wherein the light chain variable region comprises an amino acid sequence selected from the group consisting of SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:253 and SEQ ID NO:279.

18. The antibody or antigen binding fragment thereof of any of Claims 1-17, wherein the antibody or antigen-binding fragment is selected from the group consisting of a human antibody, a humanized antibody, a chimeric antibody, a murine antibody, and an antigen-binding fragment of any of the foregoing.

19. The antibody or antigen-binding fragment thereof of any of Claims 1-17, wherein said antibody or antigen binding fragment thereof is selected from the group consisting of a single chain antibody, an ScFv, a Fab fragment, an Fab' fragment, an F(ab')2 fragment, a univalent antibody lacking a hinge region and a whole antibody.

20. The antibody or antigen-binding fragment thereof of any of Claims 1-17, wherein said antibody inhibits alternative pathway activation in mammalian blood.

21. An isolated antibody or antigen-binding fragment thereof that binds to human MASP-3, comprising a heavy chain variable region selected from the group consisting of SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:251 and SEQ ID NO:252 and a light chain variable region selected from the group consisting of SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:253 and SEQ ID NO:279.

22. The isolated antibody or antigen-binding fragment thereof of claim 21, wherein the heavy chain variable region comprises SEQ ID NO:28 and the light chain variable region comprises SEQ ID NO:43.

23. The isolated antibody or antigen-binding fragment thereof of claim 21, wherein the heavy chain variable region comprises SEQ ID NO:28 and the light chain variable region comprises SEQ ID NO:43.

24. The isolated antibody or antigen-binding fragment thereof of claim 21, wherein the heavy chain variable region comprises SEQ ID NO:251 or SEQ ID NO:252 and the light chain variable region comprises SEQ ID NO:253.

25. The isolated antibody or antigen-binding fragment thereof of claim 21, wherein the heavy chain variable region comprises SEQ ID NO:251 or SEQ ID NO:252 and the light chain variable region comprises SEQ ID NO:279.

26. The isolated antibody of any of claims 21-25, wherein the antibody is selected from the group consisting of a single chain antibody, an ScFv, a Fab fragment, an Fab' fragment, an F(ab')2 fragment, a univalent antibody lacking a hinge region and a whole antibody.

27. The isolated antibody or antigen-binding fragment thereof of any of claims 21-25, wherein said antibody inhibits alternative pathway activation in mammalian blood.

28. A composition comprising the antibody or antigen-binding fragment of any of claims 1-17 or 21-25 and a pharmaceutically acceptable excipient.

29. An isolated DNA sequence encoding the heavy and/or light chain variable regions of an antibody or antigen-binding fragment thereof from any one of claims 1-25.

30. A cloning or expression vector comprising one or more DNA sequences of Claim 29.

31. A host cell comprising one or more cloning or expression vectors of claim 30.

32. A process for producing the antibody or antigen-binding fragment thereof of any of claims 1-25 comprising culturing the host cell of Claim 31 and isolating the antibody or antigen-binding fragment thereof.

33. Use of a composition according to claim 28 in the manufacture of a medicament for inhibiting alternative pathway complement activation in a mammalian subject, wherein the composition comprising a high affinity MASP-3 inhibitory antibody or antigen-binding fragment thereof is in an amount sufficient to inhibit alternative pathway complement activation in the mammalian subject.