CLAIMS

What is claimed is:

1. An antibody that specifically binds to human C5.
wherein the antibody comprises:

a) a heavy chain variable (VH) region and a light chain variable (VL) region, wherein the VH region comprises:

i) a VH-CDR1 comprising the amino acid sequence of SEQ ID NO: 3;

ii) a VH-CDR2 comprising the amino acid sequence of SEQ ID NO: 4; and

iii) a VH-CDR3 comprising the amino acid sequence of SEQ ID NO: 5; and

wherein the VL region comprises:

i) a VL-CDR1 comprising the amino acid sequence of SEQ ID NO: 8;

ii) a VL-CDR2 comprising the amino acid sequence of SEQ ID NO: 9; and

iii) a VL-CDR3 comprising the amino acid sequence of SEQ ID NO: 10;

b) a VH region and a VL region, wherein the VH region comprises:

i) a VH-CDR1 comprising the amino acid sequence of SEQ ID NO: 13;

ii) a VH-CDR2 comprising the amino acid sequence of SEQ ID NO: 14; and

iii) a VH-CDR3 comprising the amino acid sequence of SEQ ID NO: 15; and

wherein the VL region comprises:

i) a VL-CDR1 comprising the amino acid sequence of SEQ ID NO: 18;

ii) a VL-CDR2 comprising the amino acid sequence of SEQ ID NO: 19; and

iii) a VL-CDR3 comprising the amino acid sequence of SEQ ID NO: 20;

c) a VH region comprising the amino acid sequence of SEQ ID NO: 22, and a VL region comprising the amino acid sequence of SEQ ID NO: 27;

d) a VH region and a VL region, wherein the VH region comprises:

i) a VH-CDR1 comprising the amino acid sequence of SEQ ID NO: 32;

ii) a VH-CDR2 comprising the amino acid sequence of SEQ ID NO: 33; and

iii) a VH-CDR3 comprising the amino acid sequence of SEQ ID NO: 34; and

wherein the VL region comprises:

i) a VL-CDR1 comprising the amino acid sequence of SEQ ID NO: 37;

ii) a VL-CDR2 comprising the amino acid sequence of SEQ ID NO: 38; and

iii) a VL-CDR3 comprising the amino acid sequence of SEQ ID NO: 39;

e) a VH region and a VL region, wherein the VH region comprises:

i) a VH-CDR1 comprising the amino acid sequence of SEQ ID NO: 42;
ii) a VH-CDR2 comprising the amino acid sequence of SEQ ID NO: 43; and
iii) a VH-CDR3 comprising the amino acid sequence of SEQ ID NO: 44; and
wherein the VL region comprises:
i) a VL-CDR1 comprising the amino acid sequence of SEQ ID NO: 47;
ii) a VL-CDR2 comprising the amino acid sequence of SEQ ID NO: 48; and
iii) a VL-CDR3 comprising the amino acid sequence of SEQ ID NO: 49;
or

f) a VH region and a VL region, wherein the VH region comprises:
i) a VH-CDR1 comprising the amino acid sequence of SEQ ID NO: 52;
ii) a VH-CDR2 comprising the amino acid sequence of SEQ ID NO: 53; and
iii) a VH-CDR3 comprising the amino acid sequence of SEQ ID NO: 54; and
wherein the VL region comprises:
i) a VL-CDR1 comprising the amino acid sequence of SEQ ID NO: 57;
ii) a VL-CDR2 comprising the amino acid sequence of SEQ ID NO: 58; and
iii) a VL-CDR3 comprising the amino acid sequence of SEQ ID NO: 59.

2. The antibody of claim 1, wherein the antibody comprises a VH-CDR1 comprising the amino acid sequence of SEQ ID NO: 3; a VH-CDR2 comprising the amino acid sequence of SEQ ID NO: 4; a VH-CDR3 comprising the amino acid sequence of SEQ ID NO: 5; a VL-CDR1 comprising the amino acid sequence of SEQ ID NO: 8; a VL-CDR2 comprising the amino acid sequence of SEQ ID NO: 9; and a VL-CDR3 comprising the amino acid sequence of SEQ ID NO:10.

3. The antibody of claim 1, wherein the antibody comprises a VH-CDR1 comprising the amino acid sequence of SEQ ID NO:13; a VH-CDR2 comprising the amino acid sequence of SEQ ID NO:14; a VH-CDR3 comprising the amino acid sequence of SEQ ID NO:15; a VL-CDR1 comprising the amino acid sequence of SEQ ID NO:18; a VL-CDR2 comprising the amino acid sequence of SEQ ID NO:19; and a VL-CDR3 comprising the amino acid sequence of SEQ ID NO:20.

4. The antibody of claim 1, wherein the antibody comprises a VH-CDR1comprising the amino acid sequence of SEQ ID NO:32; a VH-CDR2 comprising the amino acid sequence of SEQ ID NO:33; a VH-CDR3 comprising the amino acid sequence of SEQ ID NO:34; a VL-CDR1 comprising the amino acid sequence of SEQ ID NO:37; a VL-CDR2 comprising the amino acid sequence of SEQ ID NO:38; and a VL-CDR3 comprising the amino acid sequence of SEQ ID NO:39.

5. The antibody of claim 1, wherein the antibody comprises a VH-CDR1 comprising the amino acid sequence of SEQ ID NO: 42; a VH-CDR2 comprising the amino acid sequence of SEQ ID NO: 43; a VH-CDR3 comprising the amino acid sequence of SEQ ID NO: 44; a VL-CDR1 comprising the amino acid sequence of SEQ ID NO: 47; a VL-CDR2 comprising the amino acid sequence of SEQ ID NO: 48; and a VL-CDR3 comprising the amino acid sequence of SEQ ID NO: 49.

6. The antibody of claim 1, wherein the antibody comprises a VH-CDR1 comprising the amino acid sequence of SEQ ID NO: 52; a VH-CDR2 comprising the amino acid sequence of SEQ ID NO: 53; a VH-CDR3 comprising the amino acid sequence of SEQ ID NO: 54; a VL-CDR1 comprising the amino acid sequence of SEQ ID NO: 57; a VL-CDR2 comprising the amino acid sequence of SEQ ID NO: 58; and a VL-CDR3 comprising the amino acid sequence of SEQ ID NO: 59.

7. The antibody of any one of claims 1-6, wherein the antibody comprises a VH region comprising an amino acid sequence selected from the group consisting of:

i) an amino acid sequence having at least about 95% identity to SEQ ID NO: 2;

ii) an amino acid sequence having at least about 95% identity to SEQ ID NO: 12;

iii) an amino acid sequence of SEQ ID NO: 22;

iv) an amino acid sequence having at least about 95% identity to SEQ ID NO: 31;

v) an amino acid sequence having at least about 95% identity to SEQ ID NO: 41;

vi) an amino acid sequence having at least about 95% identity to SEQ ID NO: 51;

8. The antibody of any one of claims 1-7, wherein the antibody comprises a VL region comprising an amino acid sequence selected from the group consisting of:

i) an amino acid sequence having at least about 95% identity to SEQ ID NO: 7;

ii) an amino acid sequence having at least about 95% identity to SEQ ID NO: 17;

iii) an amino acid sequence of SEQ ID NO: 27;

iv) an amino acid sequence having at least about 95% identity to SEQ ID NO: 36;

v) an amino acid sequence having at least about 95% identity to SEQ ID NO: 46;

vi) an amino acid sequence having at least about 95% identity to SEQ ID NO: 56.

9. The antibody of any one of claims 1-8, wherein the antibody comprises:

(a) a VH region comprising an amino acid sequence having at least about 95% identity to SEQ ID NO: 2, and a VL region comprising an amino acid sequence having at least about 95% identity to SEQ ID NO: 7;

(b) a VH region comprising an amino acid sequence having at least about 95% identity to SEQ ID NO: 12, and a VL region comprising an amino acid sequence having at least about 95% identity to SEQ ID NO: 17;

(c) a VH region comprising the amino acid sequence of SEQ ID NO: 22, and a VL region comprising the amino acid sequence of SEQ ID NO: 27;

(d) a VH region comprising an amino acid sequence having at least about 95% identity to SEQ ID NO: 31, and a VL region comprising an amino acid sequence having at least about 95% identity to SEQ ID NO: 36;

(e) a VH region comprising an amino acid sequence having at least about 95% identity to SEQ ID NO: 41, and a VL region comprising an amino acid sequence having at least about 95% identity to SEQ ID NO: 46;

(f) a VH region comprising an amino acid sequence having at least about 95% identity to SEQ ID NO: 51, and a VL region comprising an amino acid sequence having at least about 95% identity to SEQ ID NO: 56;

(g) a VH region comprising an amino acid sequence having at least about 95% identity to SEQ ID NO: 63, and a VL region comprising an amino acid sequence having at least about 95% identity to SEQ ID NO: 73; and

(h) a VH region comprising an amino acid sequence having at least about 95% identity to SEQ ID NO: 68, and a VL region comprising an amino acid sequence having at least about 95% identity to SEQ ID NO: 73.

10. The antibody of any one of claims 1, 2, and 7-9, wherein the antibody comprises a VH region comprising the amino acid sequence of SEQ ID NO: 2, and a VL region comprising the amino acid sequence of SEQ ID NO: 7.

11. The antibody of any one of claims 1, 3, and 7-9 wherein the antibody comprises a VH region comprising the amino acid sequence of SEQ ID NO: 12, and a VL region comprising the amino acid sequence of SEQ ID NO: 17.

12. The antibody of any one of claims 1 and 7-9, wherein the antibody comprises a VH region comprising the amino acid sequence of SEQ ID NO: 22, and a VL region comprising the amino acid sequence of SEQ ID NO: 27.

13. The antibody of any one of claims 1, 4, and 7-9, wherein the antibody comprises a VH region comprising the amino acid sequence of SEQ ID NO: 31, and a VL region comprising the amino acid sequence of SEQ ID NO: 36.

14. The antibody of any one of claims 1, 5, and 7-9, wherein the antibody comprises a VH region comprising the amino acid sequence of SEQ ID NO: 41, and a VL region comprising the amino acid sequence of SEQ ID NO: 46.

15. The antibody of any one of claims 1 and 6-9, wherein the antibody comprises a VH region comprising the amino acid sequence of SEQ ID NO: 51, and a VL region comprising the amino acid sequence of SEQ ID NO: 56.

16. The antibody of any one of claims 1-15, wherein the antibody is selected from the group consisting of full-length antibody, Fab, Fab', $F(ab)_2$, $F(ab')_2$, scFv, and combinations thereof.

17. The antibody of any one of claims 1-16, wherein the antibody is a chimeric antibody.

18. A cell comprising the antibody of claim 1.

19. The cell of claim 18, wherein the cell produces the antibody of any one of the claims 1-17.

20. The cell of claim 18, wherein the cell is a hybridoma.

21. Use of the antibody of any one of claims 1-17 in the manufacture of a medicament for treating a complement pathway-mediated disease or disorder in an individual.

22. The use of claim 21, wherein the complement pathway-mediated disease or disorder is selected from the group consisting of: macular degeneration (MD), age-related macular degeneration (AMD), ischemia reperfusion injury, arthritis, rheumatoid arthritis, lupus, ulcerative colitis, stroke, post-surgery systemic inflammatory syndrome, asthma, allergic asthma, chronic obstructive pulmonary disease (COPD), paroxysmal nocturnal hemoglobinuria (PNH) syndrome, myasthenia gravis, neuromyelitis optica (NMO), multiple sclerosis, delayed graft function, antibody-mediated rejection, atypical hemolytic uremic (aHUS) syndrome, central retinal vein occlusion (CRVO), central retinal artery occlusion (CRAO), epidermolysis bullosa, sepsis, organ transplantation, inflammation, inflammation associated with cardiopulmonary bypass surgery and kidney dialysis, C3 glomerulopathy, membranous nephropathy, IgA nephropathy, glomerulonephritis, anti-neutrophil cytoplasmic antibody (ANCA)-mediated glomerulonephritis, lupus nephritis, ANCA-mediated vasculitis, Shiga toxin induced HUS, antiphospholipid antibody-induced pregnancy loss, and any combinations thereof.

23. Use of the antibody of any one of claims 1-17 in the manufacture of a medicament for reducing the activity of a complement system of an individual.

24. The use of any one of claims 21-23, wherein:

i) the antibody is for enteral administration, parenteral administration, or a combination thereof; and/or

ii) the individual is a human.