CLAIMS

1. Use of an anti-C1q Fab fragment in the manufacture of a medicament for preventing, reducing risk of developing, or treating cold agglutinin hemolytic anemia (cold agglutinin disease), cold antibody hemolytic anemia, ABO incompatible acute hemolytic reactions, warm agglutinin hemolytic anemia, warm antibody hemolytic anemia, warm autoimmune hemolytic anemia (WAIHA), autoimmune hemolytic anemia (AIHA) autoimmune thrombocytopenia, paroxysmal cold hemoglobinuria (PCH), antiphospholipid syndrome (APS), Evan's syndrome, neonatal alloimmune thrombocytopenia, red blood cell alloimmunization, Felty's syndrome, antibody mediated thrombocytopenia, heparin-induced thrombocytopenia (HIT), heparin-induced thrombocytopenia and thrombosis (HITT), thrombotic thrombocytopenic purpura (TTP), immune thrombocytopenic purpura (ITP), thrombocytopenia, thrombosis, vasculitis, lupus nephritis, systemic lupus erythematosus (SLE), glomerulonephritis, anti-phospholipid antibody syndrome (APS), an infection, or a drug-induced hematologic disorder wherein the anti-C1q Fab fragment comprises:

(a) a light chain variable domain comprising an HVR-L1 having the amino acid sequence of SEQ ID NO: 5, an HVR-L2 having the amino acid of SEQ ID NO: 6, and an HVR-L3 having the amino acid of SEQ ID NO: 7; and a heavy chain variable domain comprising an HVR-H1 having the amino acid sequence of SEQ ID NO: 9, an HVR-H2 having the amino acid of SEQ ID NO: 10, and an HVR-H3 having the amino acid of SEQ ID NO: 11;

(b) a light chain variable domain comprising an amino acid sequence with at least 95% identity to the amino acid sequence selected from SEQ ID NO: 4 and 35-38 and wherein the light chain variable domain comprises an HVR-L1 having the amino acid sequence of SEQ ID NO: 5, an HVR-L2 having the amino acid of SEQ ID NO: 6, and an HVR-L3 having the amino acid of SEQ ID NO: 7, preferably wherein the light chain variable domain comprising an amino acid sequence selected from SEQ ID NO: 4 and 35-38; and a heavy chain variable domain comprising an amino acid sequence with at least 95% identity to the amino acid sequence selected from SEQ ID NO: 8 and 31-34 and wherein the heavy chain variable domain comprises an HVR-H1 having the amino acid sequence of SEQ ID NO: 9, an HVR-H2 having the amino acid of SEQ ID NO: 10,

and an HVR-H3 having the amino acid of SEQ ID NO: 11, preferably wherein the heavy chain variable domain comprises an amino acid sequence selected from SEQ ID NO: 8 and 31-34; or

(c) a heavy chain having the amino acid sequence of SEQ ID NO: 39 and a light chain having the amino acid sequence of SEQ ID NO: 40; and

wherein:

the Fab fragment is to be administered by intravenous injection or infusion, by intramuscular injection, or by subcutaneous injection at a dose between 0.1 mg/kg and 50 mg/kg, or at a dose between 0.3 mg/kg and 10 mg/kg.

2. The use of claim 1, wherein the Fab fragment inhibits the interaction between C1q and an autoantibody or between C1q and C1r, or between C1q and C1s.

3. The use of claim 1 or 2, wherein the Fab fragment promotes clearance of C1q from circulation or a tissue.

4. The use of any one of claims 1-3, wherein the medicament is to be administered once a week, once every other week, or once a month.

5. The use of any one of claims 1-3, wherein the medicament is to be administered daily, once every other day, once a week, once every other week, or once a month.

6. The use of claim 5, wherein the medicament is to be administered at an initial predose that is higher than the daily, once every other day, once a week, once every other week, or once a month dose of the Fab fragment.

7. The use of claim 6, wherein the initial predose is between 3 mg/kg and 50 mg/kg or is between 3 mg/kg and 20 mg/kg of the Fab fragment.

8. The use of any one of claims 1-7, wherein the Fab fragment has a shorter half-life as compared to its corresponding full-length antibody.

9. The use of any one of claims 1-8, wherein the Fab fragment is rapidly cleared, thereby sparing C1q activity outside the blood space.

10. The use of any one of claims 1-9, wherein the Fab fragment selectively inhibits C1q within the blood space, thereby sparing C1q activity outside the blood space.

11. The use of claim 10, wherein the blood space is confined within a blood vessel.

12. The use of claim 11, wherein the blood vessel is an artery, an arteriole, a capillary, a venule, or a vein.

13. The use of any one of claims 10-12, wherein the blood space comprises serum, platelets, endothelial cells, blood cells, or hematopoietic cells.

14. The use of any one of claims 10-13, wherein inhibiting C1q within the blood space reduces tissue damage in a highly vascularized tissue.

15. The use of claim 14, wherein the highly vascularized tissue is kidney, alveoli, capillary bed, or glomerulus.

16. Use of an anti-C1q antibody or antigen binding fragment thereof in the manufacture of a medicament for preventing, reducing risk of developing, or treating autoimmune thrombocytopenia, Evan’s syndrome, neonatal alloimmune thrombocytopenia, Felty's syndrome, antibody mediated thrombocytopenia, heparin-induced thrombocytopenia (HIT), heparin-induced thrombocytopenia and thrombosis (HITT), thrombotic thrombocytopenic purpura (TTP), immune thrombocytopenic purpura (ITP), thrombocytopenia, thrombosis, or systemic lupus erythematosus (SLE), wherein the anti-C1q antibody or antigen binding fragment thereof comprises:

(a) a light chain variable domain comprising an HVR-L1 having the amino acid sequence of SEQ ID NO: 5, an HVR-L2 having the amino acid of SEQ ID NO: 6, and an

HVR-L3 having the amino acid of SEQ ID NO: 7; and a heavy chain variable domain comprising an HVR-H1 having the amino acid sequence of SEQ ID NO: 9, an HVR-H2 having the amino acid of SEQ ID NO: 10, and an HVR-H3 having the amino acid of SEQ ID NO: 11;

(b) a light chain variable domain comprising the amino acid sequence selected from SEQ ID NO: 4 and 35-38; and a heavy chain variable domain comprising the amino acid sequence selected from SEQ ID NO: 8 and 31-34; or

(c) a heavy chain Fab fragment of SEQ ID NO: 39 and a light chain Fab fragment of SEQ ID NO: 40.

17. The use of claim 16, wherein the anti-C1q antibody or the antigen binding fragment inhibits the interaction between C1q and an autoantibody or between C1q and C1r, or between C1q and C1s.

18. The use of claim 16 or 17, wherein the anti-C1q antibody or the antigen binding fragment promotes clearance of C1q from circulation or a tissue.

19. The use of any one of claims 16-18, wherein the antibody is a full-length antibody.

20. The use of claim 19, wherein the antibody is to be administered by intravenous injection or infusion at a dose between 10 mg/kg and 150 mg/kg or at a dose between 75 mg/kg and 100 mg/kg.

21. The use of claim 20, wherein the medicament is to be administered once a week, once every other week, or once a month.

22. The use of claim 19, wherein the antibody is to be administered by subcutaneous or intramuscular injection at a dose between 1 mg/kg and 10 mg/kg, or between 3 mg/kg and 5 mg/kg.

23. The use of claim 22, wherein the medicament is to be administered daily, once every other day, once a week, once every other week, or once a month.

24. The use of any one of claims 16-18, wherein the antibody is an antigen binding fragment.

25. The use of claim 24, wherein the antigen binding fragment is a Fab fragment, a Fab' fragment, a F(ab')2 fragment, a Fv fragment, a diabody, or a single chain antibody molecule.

26. The use of claim 24 or 25, wherein the antigen binding fragment is to be administered at a dose between 0.1 mg/kg and 50 mg/kg, or at a dose between 0.3 mg/kg and 10 mg/kg.

27. The use of any one of claims 24-26, wherein the medicament is to be administered daily, once every other day, once a week, once every other week, or once a month.

28. The use of claim 27, wherein the medicament is to be administered at an initial predose that is higher than the daily, once every other day, once a week, once every other week, or once a month dose of the antigen binding fragment.

29. The use of claim 28, wherein the initial predose is between 3 mg/kg and 50 mg/kg or is between 3 mg/kg and 20 mg/kg of the antigen binding fragment.

30. The use of any one of claims 24-29, wherein the antigen binding fragment has a shorter half-life as compared to its corresponding full-length antibody.

31. The use of any one of claims 24-30, wherein the antigen binding fragment is rapidly cleared, thereby sparing C1q activity outside the blood space.

32. The use of any one of claims 24-31, wherein the antigen binding fragment selectively inhibits C1q within the blood space, thereby sparing C1q activity outside the blood space.

33. The use of claim 32, wherein the blood space is confined within a blood vessel.

34. The use of claim 33, wherein the blood vessel is an artery, an arteriole, a capillary, a venule, or a vein.

35. The use of any one of claims 32-34, wherein the blood space comprises serum, platelets, endothelial cells, blood cells, or hematopoietic cells.

36. The use of any one of claims 32-35, wherein inhibiting C1q within the blood space reduces tissue damage in a highly vascularized tissue.

37. The use of claim 36, wherein the highly vascularized tissue is kidney, alveoli, capillary bed, or glomerulus.