~~What is claimed is:~~CLAIMS

1. Use of a C1q inhibitor in the manufacture of a medicament for ~~A method of~~ preventing, reducing risk of developing, or treating a blood disorder~~, comprising administering to a subject a C1q inhibitor~~.

2. The ~~method~~ use of claim 1, wherein the C1q inhibitor is an antibody, an aptamer, an antisense nucleic acid or a gene editing agent.

3. The use ~~method~~ of claim 1, wherein the inhibitor is an anti-C1q antibody.

4. The use ~~method~~ of claim 3, wherein the anti-C1q antibody inhibits the interaction between C1q and an autoantibody or between C1q and C1r, or between C1q and C1s.

5. The use ~~method~~ of claim 3, wherein the anti-C1q antibody promotes clearance of C1q from circulation or a tissue.

~~6. The method of any one of claims 3-5, wherein the anti-C1q antibody has a dissociation constant (K_D) that ranges from 100 nM to 0.005 nM or less than 0.005 nM.~~

~~7. The method of any one of claims 3-6, wherein the anti-C1q antibody binds C1q with a binding stoichiometry that ranges from 20:1 to 1.0:1 or less than 1.0:1.~~

~~8. The method of claim 7, wherein the antibody is an anti-C1q antibody that binds C1q with a binding stoichiometry that ranges from 6:1 to 1.0:1 or less than 1.0:1.~~

~~9. The method of claim 8, wherein the antibody is an anti-C1q antibody that binds C1q with a binding stoichiometry that ranges from 2.5:1 to 1.0:1 or less than 1.0:1.~~

~~10. The method of any one of claims 3-9, wherein the antibody specifically binds to and neutralizes a biological activity of C1q.~~

~~11. The method of claim 10, wherein the biological activity is (1) C1q binding to an autoantibody, (2) C1q binding to C1r, (3) C1q binding to C1s, (4) C1q binding to IgM, (5) C1q binding to phosphatidylserine, (6) C1q binding to pentraxin-3, (7) C1q binding to C-reactive protein (CRP), (8) C1q binding to globular C1q receptor (gC1qR), (9) C1q binding to complement receptor 1 (CR1), (10) C1q binding to beta-amyloid, (11) C1q binding to calreticulin, (12) C1q binding to apoptotic cells, or (13) C1q binding to B cells.~~

~~12. The antibody of claim 10 or 11, wherein the biological activity is (1) activation of the classical complement activation pathway, (2) reduction in lysis and/or reduction in C3 deposition, (3) activation of antibody and complement dependent cytotoxicity, (4) CH50 hemolysis, (5) a reduction in red blood cell lysis, (6) a reduction in red blood cell phagocytosis, (7) a reduction in dendritic cell infiltration, (8) inhibition of complement mediated red blood cell lysis, (9) a reduction in lymphocyte infiltration, (10) a reduction in macrophage infiltration, (11) a reduction in antibody deposition, (12) a reduction in neutrophil infiltration, (13) a reduction in platelet phagocytosis, (14) a reduction in platelet lysis, (15) an improvement in transplant graft survival, (16) a reduction in macrophage mediated phagocytosis, (17) a reduction in autoantibody mediated complement activation, (18) a reduction in red blood cell destruction due to transfusion reactions, (19) a reduction in red blood cell lysis due to alloantibodies, (20) a reduction in hemolysis due to transfusion reactions, (21) a reduction in alloantibody mediated platelet lysis, (22) an improvement in anemia, (23) a reduction in eosinophilia, (24) a reduction in C3 deposition on red blood cells (*e.g.,* a reduction of deposition of C3b, iC3b, etc., on RBCs), (25) a reduction in C3 deposition on platelets (*e.g.,* a reduction of deposition of C3b, iC3b, etc., on platelets), (26) reduction in anaphylatoxin production, (27) a reduction in autoantibody mediated blister formation, (28) a reduction in autoantibody induced erythematosus, (29) a reduction in red blood cell destruction due to transfusion reactions, (30) a reduction in platelet lysis due to transfusion reactions, (31) a reduction in mast cell activation, (32) a reduction in mast cell histamine release, (33) a reduction in vascular permeability, (34) a reduction in complement deposition on transplant graft endothelium, (35) B-cell antibody production, (36) dendritic cell maturation, (37) T-cell proliferation, (38) cytokine production, (39) microglia activation, (40) Arthus reaction, (41) a reduction of anaphylatoxin generation in transplant graft endothelium, or (42) activation of complement receptor 3 (CR3/C3) expressing cells.~~

~~13. The method of claim 12, wherein CH50 hemolysis comprises human CH50 hemolysis.~~

~~14. The method of claim 12 or 13, wherein the antibody is capable of neutralizing from at least about 50%, to about 100% of human CH50 hemolysis.~~

~~15. The method of any one of claims 12-14, wherein the antibody is capable of neutralizing at least 50% of CH50 hemolysis at a dose of less than 150 ng/ml, less than 100 ng/ml, less than 50 ng/ml, or less than 20 ng/ml.~~

~~16~~6. The use ~~method~~ of any one of claims 3-~~15~~5, wherein the antibody is a monoclonal antibody, a polyclonal antibody, a recombinant antibody, a humanized antibody, a human antibody, a chimeric

antibody, a monovalent antibody, a multispecific antibody, an antibody fragment, or antibody derivative thereof.

~~17~~7. The use ~~method~~ of claim ~~16~~6, wherein the antibody is an antibody fragment and the antibody fragment is a Fab fragment, a Fab' fragment, a F(ab')2 fragment, a Fv fragment, a diabody, or a single chain antibody molecule.

~~18~~8. The use ~~method~~ of any one of claims 3-~~17~~7, wherein the antibody comprises 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.

~~19~~9. The use ~~method~~ of any one of claims 3-~~18~~8, wherein the antibody comprises 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.

~~20~~10. The use ~~method~~ of any one of claims 3-~~19~~9, wherein the antibody comprises a light chain variable domain comprising an amino acid sequence with at least about 95% homology 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.

~~21~~11. The use ~~method~~ of claim ~~20~~10, wherein the light chain variable domain comprising an amino acid sequence selected from SEQ ID NO: 4 and 35-38.

~~22~~12. The use ~~method~~ of any one of claims 3-~~21~~11, wherein the antibody comprises a heavy chain variable domain comprising an amino acid sequence with at least about 95% homology 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.

~~23~~13. The use ~~method~~ of claim ~~22~~12, wherein the heavy chain variable domain comprising an amino acid sequence selected from SEQ ID NO: 8 and 31-34.

~~24~~14. The use ~~method~~ of any one of claims 3-~~23~~13, wherein the antibody is an antibody fragment comprising a heavy chain Fab fragment of SEQ ID NO: 39 and a light chain Fab fragment of SEQ ID NO: 40.

~~25~~15. The use ~~method~~ of any one of claims 3-~~24~~14, wherein the ~~antibody~~ medicament is to be administered ~~administered~~ by parenteral injection or infusion.

~~26~~16. The use ~~method~~ of claim ~~25~~15, wherein the parenteral injection or infusion is a subcutaneous, ~~or~~ intramuscular injection, or an intravenous injection or infusion.

~~27. The method of claim 25, wherein the parenteral injection or infusion is an intravenous injection or infusion.~~

~~28~~17. The use ~~method~~ of any one of claims 3-~~23~~13, wherein the antibody is a full-length antibody.

~~29~~18. The use ~~method~~ of claim ~~28~~17, wherein the antibody is to be administered ~~administered to the subject~~ 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.

~~30. The method of claim 29, wherein the antibody is administered to the subject by intravenous injection or infusion at a dose between 75 mg/kg and 100 mg/kg.~~

~~31~~19. The use ~~method~~ of any one of claims ~~28~~17-~~30~~18, wherein the ~~antibody~~ medicament is to be administered ~~administered~~ once a week, once every other week, or once a month.

~~32. The method of any one of claims 28-30, wherein the antibody is administered once every other week.~~

~~33. The method of any one of claims 28-30, wherein the antibody is administered once a month.~~

~~34~~20. The use ~~method~~ of claim ~~28~~17, wherein the antibody is to be administered ~~administered to the subject~~ by subcutaneous or intramuscular injection at a dose between 1 mg/kg and 10 mg/kg.

~~35~~21. The use ~~method~~ of claim ~~34~~20, wherein the antibody is to be administered ~~administered to the subject~~ by subcutaneous or intramuscular injection at a dose between 3 mg/kg and 5 mg/kg.

~~36~~22. The use ~~method~~ of claims ~~34~~ 20 or ~~35~~21, wherein the ~~antibody~~ medicament is to be administered ~~administered~~ daily, once every other day, once a week, once every other week, or once a month.

~~37. The method of claims 34 or 35, wherein the antibody is administered once every other day.~~

~~38. The method of claims 34 or 35, wherein the antibody is administered once a week.~~

~~39. The method of claims 34 or 35, wherein the antibody is administered once every other week.~~

~~40. The method of claims 34 or 35, wherein the antibody is administered once a month.~~

~~41~~23. The use ~~method~~ of any one of claims 3-~~24~~14, wherein the antibody is an antibody fragment.

~~42. The method of claim 41, wherein the antibody fragment is administered to the subject by intravenous injection or infusion.~~

~~43. The method of claim 41, wherein the antibody fragment is administered to the subject by intramuscular injection.~~

~~44. The method of claim 41, wherein the antibody fragment is administered to the subject by subcutaneous injection.~~

~~45~~24. The use ~~method~~ of ~~any one of claims 41-44~~claim 23, wherein the antibody fragment is to be administered ~~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.

~~46. The method of claim 45, wherein the antibody fragment is administered at a dose between 0.3 mg/kg and 10 mg/kg.~~

~~47~~25. The use ~~method~~ of any one of claims ~~41~~23-~~46~~24, wherein the ~~antibody fragment~~medicament is to be administered ~~administered~~ daily, once every other day, once a week, once every other week, or once a month.

~~48. The method of any one of claims 41-46, wherein the antibody fragment is administered once every other day.~~

~~49. The method of any one of claims 41-46, wherein the antibody fragment is administered once a week.~~

~~50. The method of any one of claims 41-46, wherein the antibody fragment is administered once every other week.~~

~~51. The method of any one of claims 41-46, wherein the antibody fragment is administered once a month.~~

~~52~~26. The use ~~method~~ of ~~any one of claims 47-51~~claim 25, wherein the ~~antibody fragment~~medicament is to be administered ~~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.

~~53~~27. The use ~~method~~ of claim ~~52~~26, wherein the initial predose is between 3 mg/kg and 50 mg/kg or is between 3 mg/kg and 20 mg/kg.

~~54. The method of claim 53, wherein the initial predose is between 3 mg/kg and 20 mg/kg.~~

~~55~~28. The use ~~method~~ of any one of claims ~~41~~23-~~54~~27, wherein the antibody fragment has a shorter half-life as compared to its corresponding full-length antibody.

~~56~~29. The use ~~method~~ of any one of claims ~~41~~23-~~55~~28, wherein the antibody fragment is rapidly cleared, thereby sparing C1q activity outside the ~~subject's~~ blood space.

~~57~~30. The use ~~method~~ of any one of claims ~~41~~23-~~56~~29, wherein the antibody selectively inhibits C1q within the ~~subject's~~ blood space, thereby sparing C1q activity outside the ~~subject's~~ blood space.

~~58~~31. The use ~~method~~ of claim ~~57~~30, wherein the blood space is confined within a blood vessel.

~~59~~32. The use ~~method~~ of claim ~~58~~31, wherein the blood vessel is an artery, an arteriole, a capillary, a venule, or a vein.

~~60~~33. The use ~~method~~ of any one of claims ~~57~~30-~~59~~32, wherein the blood space comprises serum, platelets, endothelial cells, blood cells, or hematopoietic cells.

~~61~~34. The use ~~method~~ of any one of claims ~~57~~30-~~60~~33, wherein inhibiting C1q within the ~~subject's~~ blood space reduces tissue damage in a highly vascularized tissue.

~~62~~35. The use ~~method~~ of claim ~~61~~34, wherein the highly vascularized tissue is kidney, alveoli, capillary bed, or glomerulus.

~~63~~36. The use ~~method~~ of any one of claims 1-~~62~~35, wherein the blood disorder is a complement-mediated blood disorder.

~~64~~37. The use ~~method~~ of claim any one of claims 1-~~63~~36, wherein the blood disorder is 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, antiphospholipid syndrome, 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.

~~65~~38. The use ~~method~~ of claim ~~64~~37, wherein the infection is pneumonia, mycoplasma, mononucleosis, hepatitis C, human immunodeficiency virus (HIV), or coronavirus.

~~66~~39. The use ~~method~~ of any one of claim ~~65~~38, wherein the coronavirus is selected from SARS-CoV, MERS-CoV, HCoV, HKU1, and SARS-CoV-2.

~~67~~40. The use ~~method~~ of claim ~~66~~39, wherein the coronavirus is SARS-CoV-2.

~~68~~41. The use ~~method~~ of claim ~~67~~40, wherein the ~~subject has~~ SARS-CoV-2 ~~infection, which has been~~is confirmed by reverse-transcription polymerase chain reaction (RT-PCR) from respiratory tract or blood specimens.

~~69~~42. The use ~~method~~ of claim ~~64~~37, wherein the blood disorder is cold agglutinin hemolytic anemia (cold agglutinin disease).

~~70~~43. The use ~~method~~ of claim ~~64~~37, wherein the blood disorder is warm autoimmune hemolytic anemia (WAIHA).

~~71~~44. The use ~~method~~ of claim ~~64~~37, wherein the blood disorder is lupus nephritis.

~~72~~45. The use ~~method~~ of claim ~~64~~37, wherein the blood disorder is heparin-induced thrombocytopenia (HIT).

~~73~~46. The use ~~method~~ of claim ~~64~~37, wherein the blood disorder is heparin-induced thrombocytopenia and thrombosis (HITT).

~~74~~47. The use ~~method~~ of claim ~~64~~37, wherein the blood disorder is immune thrombocytopenic purpura (ITP).

~~75~~48. The use ~~method~~ of claim ~~64~~37, wherein the drug-induced hematologic disorder is aplastic anemia, agranulocytosis, megaloblastic anemia, hemolytic anemia, or thrombocytopenia.