We claim:

1. An isolated recombinant antibody or antigen-binding fragment thereof that specifically binds to *P. aeruginosa* PcrV, wherein the antibody or antigen-binding fragment thereof comprises three heavy chain complementarity determining regions (CDRs) (HCDR1, HCDR2 and HCDR3) and three light chain CDRs (LCDR1, LCDR2 and LCDR3) contained within any one of the heavy chain variable region/light chain variable region (HCVR/LCVR) amino acid sequence pairs selected from the group consisting of SEQ ID NOs: 34/42, 50/58, 2/10, and 18/26.

2. The isolated recombinant antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding fragment thereof has one or more of the following characteristics:

(a) is a fully human monoclonal antibody;

(b) binds to full length PcrV with a dissociation constant (K_D) of less than 10^{-8}M, as measured in a surface plasmon resonance assay at 25˚C;

(c) binds to full length PcrV with a dissociation constant (K_D) of less than 10^{-8}M, as measured in a surface plasmon resonance assay at 37˚C;

(d) demonstrates neutralization of *P. aeruginosa* strain 6077 with an IC_{50} ranging from about 10^{-11} M to about 10^{-8} M in a cytotoxicity assay;

(e) demonstrates neutralization of *P. aeruginosa* strain ATCC 700888 with an IC_{50} ranging from about 10^{-9} M to about 10^{-7}M in a cytotoxicity assay;

(f) demonstrates neutralization of *P. aeruginosa* strain 6077 with an IC_{50} ranging from about 10^{-10}M to about 10^{-6}M in a hemolytic assay;

(g) demonstrates neutralization of *P. aeruginosa* strain ATCC 700888 with an IC_{50} ranging from about 10^{-10}M to about 10^{-7}M in a hemolytic assay;

(h) decreases mortality from *P. aeruginosa* strain 6206 or strain 6077 in mice treated prophylactically with 5 mg/kg relative to untreated mice in an acute pneumonia model;

(i) decreases mortality from *P. aeruginosa* strain 6206 or strain 6077 in mice treated prophylactically with 1.0, 0.2 or 0.04 mg/kg relative to untreated mice in an acute pneumonia model;

(j) decreases lung bacterial burden of *P. aeruginosa* strain 6206 in mice treated prophylactically at 0.1 mg/kg or 0.2 mg/kg relative to untreated mice in an acute pneumonia model;

(k) decreases lung bacterial burden of *P. aeruginosa* strain PA01 in mice treated prophylactically at 25 mg/kg relative to untreated mice in an acute pneumonia model;

(l) cross-competes with a reference antibody, wherein the reference antibody comprises a heavy chain variable region (HCVR) and a light chain variable region (LCVR) amino acid sequence selected from the group consisting of any of the HCVR and LCVR amino acid sequences of Table 1;

(m) binds to full length PcrV with an EC_{50} of less than about 10^{-8}M;

(n) binds to PcrV 136-233 (SEQ ID NO: 81) with an EC_{50} of less than about 10^{-8}M;

(o) interacts with at least one amino acid sequence selected from the group consisting of (i) amino acid residues ranging from about position 150 to about position 170 of SEQ ID NO: 78 and (ii) amino acid residues ranging from about position 155 to about 170 of SEQ ID NO: 78; and/or

(p) interacts with at least one amino acid sequence selected from the group consisting of SEQ ID NO: 85 and SEQ ID NO: 86.

3. The isolated antibody or antigen-binding fragment thereof of either of claims 1 or 2, comprising an HCVR/LCVR amino acid sequence pair of SEQ ID NOs: 34/42.

4. The isolated antibody or antigen-binding fragment thereof of either of claims 1 or 2, comprising an HCVR/LCVR amino acid sequence pair of SEQ ID NOs: 50/58.

5. The isolated antibody or antigen-binding fragment thereof of either of claims 1 or 2, comprising an HCVR/LCVR amino acid sequence pair of SEQ ID NOs: 2/10.

6. The isolated antibody or antigen-binding fragment thereof of either of claims 1 or 2, comprising an HCVR/LCVR amino acid sequence pair of SEQ ID NOs: 18/26.

7. The isolated antibody or antigen-binding fragment thereof of either of claims 1 or 2, comprising an HCDR1 amino acid sequence of SEQ ID NO: 36; an HCDR2 amino acid sequence of SEQ ID NO: 38; an HCDR3 amino acid sequence of SEQ ID NO: 40; an

LCDR1 amino acid sequence of SEQ ID NO: 44; an LCDR2 amino acid sequence of SEQ ID NO: 46; and an LCDR3 amino acid sequence of SEQ ID NO: 48.

8. The isolated antibody or antigen-binding fragment thereof of either of claims 1 or 2, comprising an HCDR1 amino acid sequence of SEQ ID NO: 52; an HCDR2 amino acid sequence of SEQ ID NO: 54; an HCDR3 amino acid sequence of SEQ ID NO: 56; an LCDR1 amino acid sequence of SEQ ID NO: 60; an LCDR2 amino acid sequence of SEQ ID NO: 62 and an LCDR3 amino acid sequence of SEQ ID NO: 64.

9. The isolated antibody or antigen-binding fragment thereof of either of claims 1 or 2, comprising an HCDR1 amino acid sequence of SEQ ID NO: 4; an HCDR2 amino acid sequence of SEQ ID NO: 6; an HCDR3 amino acid sequence of SEQ ID NO: 8; an LCDR1 amino acid sequence of SEQ ID NO: 12; an LCDR2 amino acid sequence of SEQ ID NO: 14; and an LCDR3 amino acid sequence of SEQ ID NO: 16.

10. The isolated antibody or antigen-binding fragment thereof of either of claims 1 or 2, comprising an HCDR1 amino acid sequence of SEQ ID NO: 20; an HCDR2 amino acid sequence of SEQ ID NO: 22; an HCDR3 amino acid sequence of SEQ ID NO: 24; an LCDR1 amino acid sequence of SEQ ID NO: 28; an LCDR2 amino acid sequence of SEQ ID NO: 30; and an LCDR3 amino acid sequence of SEQ ID NO: 32.

11. An isolated monoclonal antibody or antigen-binding fragment thereof that competes for binding to PcrV with a reference antibody or antigen-binding fragment thereof of claim 1.

12. The isolated antibody or antigen-binding fragment thereof of claim 10, wherein the antibody or antigen-binding fragment thereof competes for binding to PcrV 136-233 (SEQ ID NO: 81) with the reference antibody or antigen-binding fragment thereof.

13. An isolated monoclonal antibody or antigen-binding fragment thereof that binds to the same epitope on PcrV as a reference antibody or antigen-binding fragment thereof of claim 1.

14. Use of a composition comprising one or more anti-PcrV antibodies or antigen-binding fragments thereof according to any one of claims 1-13 in the manufacture of a

medicament for neutralizing *P. aeruginosa*, wherein exposing a cell infected with *P. aeruginosa* to the composition results in enhanced protection from cell death.

15. The use of claim 14, wherein the *P. aeruginosa* is neutralized *in vitro* or *in vivo*.

16. The use of claim 14, wherein the enhanced protection is observed when the antibody is used alone, or when it is used in combination with one or more additional therapeutic agents or antibodies against *P. aeruginosa*.

17. The use of claim 16, wherein the one or more additional therapeutic agents is selected from the group consisting of an antibiotic, an anti-inflammatory drug, a different antibody to *P. aeruginosa*, and a therapeutic useful for treating a co-infection.

18. The use of claim 17, wherein the one or more additional therapeutic agents is a therapeutic useful for treating a co-infection and wherein the co-infection is a *S. aureus* infection.

19. The use of claim 16, wherein the one or more additional therapeutic agents is a different anti-*P. aeruginosa* antibody.

20. A pharmaceutical composition comprising one or more isolated antibodies or antigen-binding fragments thereof according to any one of claims 1 – 13 and a pharmaceutically acceptable carrier or diluent.

21. The pharmaceutical composition of claim 20, wherein the one or more isolated antibodies or antigen-binding fragments thereof comprise three HCDRs and three LCDRs within an HCVR/LCVR amino acid sequence pair selected from the group consisting SEQ ID NOs: 34/42, 50/58, 2/10, and 18/26.

22. The pharmaceutical composition of claim 20, wherein the one or more isolated antibodies or antigen-binding fragments thereof comprise the HCVR/LCVR amino acid sequence pair selected from the group consisting SEQ ID NOs: 34/42, 50/58, 2/10, and 18/26.

23. The pharmaceutical composition of claim 22, wherein the one or more isolated antibodies or antigen-binding fragments thereof comprise the HCVR/LCVR amino acid sequence pair is selected from the group consisting of SEQ ID NOs: 34/42 and 50/58.

24. The pharmaceutical composition of claim 20, wherein the isolated antibody or an antigen-binding fragment thereof comprises an HCDR1 amino acid sequence of SEQ ID NO: 36; an HCDR2 amino acid sequence of SEQ ID NO: 38; an HCDR3 amino acid sequence of SEQ ID NO: 40; an LCDR1 amino acid sequence of SEQ ID NO: 44; an LCDR2 amino acid sequence of SEQ ID NO: 46; and an LCDR3 amino acid sequence of SEQ ID NO: 48.

25. The pharmaceutical composition of claim 20, wherein the isolated antibody or an antigen-binding fragment thereof comprises an HCDR1 amino acid sequence of SEQ ID NO: 52; an HCDR2 amino acid sequence of SEQ ID NO: 54; an HCDR3 amino acid sequence of SEQ ID NO: 56; an LCDR1 amino acid sequence of SEQ ID NO: 60; an LCDR2 amino acid sequence of SEQ ID NO: 62 and an LCDR3 amino acid sequence of SEQ ID NO: 64.

26. The pharmaceutical composition of claim 20, wherein the isolated antibody or an antigen-binding fragment thereof comprises an HCDR1 amino acid sequence of SEQ ID NO: 4; an HCDR2 amino acid sequence of SEQ ID NO: 6; an HCDR3 amino acid sequence of SEQ ID NO: 8; an LCDR1 amino acid sequence of SEQ ID NO: 12; an LCDR2 amino acid sequence of SEQ ID NO: 14; and an LCDR3 amino acid sequence of SEQ ID NO: 16.

27. The pharmaceutical composition of claim 20, wherein the isolated antibody or an antigen-binding fragment thereof comprises an HCDR1 amino acid sequence of SEQ ID NO: 20; an HCDR2 amino acid sequence of SEQ ID NO: 22; an HCDR3 amino acid sequence of SEQ ID NO: 24; an LCDR1 amino acid sequence of SEQ ID NO: 28; an LCDR2 amino acid sequence of SEQ ID NO: 30; and an LCDR3 amino acid sequence of SEQ ID NO: 32.

28. An isolated polynucleotide molecule comprising a polynucleotide sequence that encodes an HCVR and/or an LCVR of an antibody as set forth in any one of claims 1 – 13.

29. A vector comprising the polynucleotide sequence of claim 28.

30. A cell expressing the vector of claim 29.

31. Use of an antibody or antigen-binding fragment thereof of any one of claims 1-13, or a pharmaceutical composition of claims 20-27, in the manufacture of a medicament for use in a method of decreasing the risk of *P. aeruginosa* infection, the method comprising administering the antibody or antigen-binding fragment thereof, or the composition, to a subject at risk for *P. aeruginosa* infection.

32. The use of claim 31, wherein the subject at greater risk for *P. aeruginosa* infection is selected from the group consisting of a subject undergoing surgery, a subject being treated for a major illness, a trauma patient, an intravenous drug user, a subject having severe burns, a subject using a breathing machine, a subject with a catheter, a subject undergoing chemotherapy, a subject having diabetes, a subject with cystic fibrosis, a subject with tuberculosis, a subject with HIV, or a subject with a compromised immune system.

33. Use of an antibody or antigen-binding fragment thereof of any one of claims 1-13, or a pharmaceutical composition of claims 19-26, in the manufacture of a medicament for use in a method of decreasing bacterial load in a subject with a *P. aeruginosa* infection, the method comprising administering the antibody or antigen-binding fragment thereof, or the pharmaceutical composition, to the subject.

34. Use of an antibody or antigen-binding fragment thereof of any one of claims 1-13, or a pharmaceutical composition of claims 20-27, in the manufacture of a medicament for use in a method of increasing the survival, or the likelihood of survival of a subject suffering from infection with *P. aeruginosa*, or a subject at risk for *P. aeruginosa* infection, the method comprising administering the antibody or antigen-binding fragment thereof, or the pharmaceutical composition, to the subject.

35. Use of an antibody or antigen-binding fragment thereof of any one of claims 1-13, or a pharmaceutical composition of claims 20-27, in the manufacture of a medicament for use in a method of ameliorating or reducing the severity, duration, or frequency of occurrence, of at least one symptom of a *P. aeruginosa* infection, the method comprising

administering the antibody or antigen-binding fragment thereof, or the pharmaceutical composition, to a subject in need thereof.

36. The use of claim 35, wherein the at least one symptom is selected from the group consisting of fever, chills, headache, fatigue, joint pain, stiffness, myalgia, diarrhea, vomiting, pain, itching, liquid discharge in the ears, rashes, pus-filled pimples on the skin, eye pain, redness in an eye, pneumonia, coughing, congestion, soft tissue discharge of green pus, sweet, fruity smell, and urinary tract infection.

37. The use of claim 35, wherein the pharmaceutical composition is administered prophylactically or therapeutically to the subject in need thereof.

38. The use of claim 35, wherein the subject is selected from the group consisting of a subject undergoing surgery, a subject being treated for a major illness, a trauma patient, an intravenous drug user, a subject having severe burns, a subject using a breathing machine, a subject with a catheter, a subject undergoing chemotherapy, a subject having diabetes, a subject with cystic fibrosis, a subject with tuberculosis, a subject with HIV, or a subject with a compromised immune system.

39. The use of claim 35, wherein the subject in need thereof has a *P. aeruginosa* infection.

40. The use of claim 35, wherein the subject is at risk of contracting a *P. aeruginosa* infection.

41. The use of claim 39, wherein the subject has a *S. aureus* infection.

42. The use of any one of claims 31-41, wherein the antibody or antigen-binding fragment thereof, or the pharmaceutical composition comprising the antibody or antigen-binding fragment thereof, is administered in combination with a second therapeutic agent.

43. The use of claim 42, wherein the second therapeutic agent is selected from the group consisting of an antibiotic, an anti-inflammatory drug (*e.g.* corticosteroids and non-steroidal anti-inflammatory drugs), and a different antibody to *P. aeruginosa*.

44. The use of any one of claims –31-41, wherein the antibody or antigen-binding fragment thereof, or the pharmaceutical composition comprising the antibody or antigen-binding fragment thereof, is administered subcutaneously, intravenously, intradermally, intramuscularly, intranasally, or orally.

45. The use of claim 39, wherein the subject has pneumonia, bacteremia, a bone infection, a joint infection, a skin infection, a burn infection, a wound infection, or any combination thereof.

46. The use of claim 39, wherein the *P. aeruginosa* is resistant or partially resistant to an antibiotic.

47. Use of at least one antibody or antigen-binding fragment of any one of claims 1 – 13, or a pharmaceutical composition of any of claims –20-27, in the manufacture of a medicament for use in a method of increasing survival, or the likelihood of survival of a subject suffering from cystic fibrosis, the method comprising administering to a subject in need thereof.

48. The use of claim 47, wherein the subject does not have pneumonia symptoms at the time of administration.