the light chain (LC) amino acid sequence of SEQ ID NO: 454, and the heavy chain (HC) amino acid sequence of SEQ ID NO: 494; or

the light chain (LC) amino acid sequence of SEQ ID NO: 454, and the heavy chain (HC) amino acid sequence of SEQ ID NO: 495.

8. The antibody of claim **1**, wherein the antibody comprises a light chain variable domain (V_L) amino acid sequence having at least 90% identity to a sequence selected from SEQ ID NO: 70, and 373-409; and/or a heavy chain variable domain (V_H) amino acid sequence having at least 90% identity to a sequence selected from SEQ ID NO: 71, and 410-439; optionally, wherein the antibody comprises a light chain variable domain (V_L) amino acid sequence of SEQ ID NO: 70 and a heavy chain variable domain (V_H) amino acid sequence of SEQ ID NO: 71; optionally, wherein the antibody comprises a light chain (LC) amino acid sequence having at least 90% identity to SEQ ID NO: 470; and/or a heavy chain (HC) amino acid sequence having at least 90% identity to SEQ ID NO: 471 or 501; optionally, wherein the antibody comprises the light chain (LC) amino acid sequence of SEQ ID NO: 470, and the heavy chain (HC) amino acid sequence of SEQ ID NO: 471 or 501.

9. The antibody of claim **1**, wherein:

the antibody binds to human CD96 with a binding affinity of 1×10^{-8} M or less, 1×10^{-9} M or less, 1×10^{-10} M or less, or 1×10^{-11} M or less; optionally, wherein the binding affinity is measured by equilibrium dissociation constant (K_D) to a hu-CD96 polypeptide of SEQ ID NO: 4;

the antibody binds to cynomolgus monkey CD96 with a binding affinity of 1×10^{-8} M or less, 1×10^{-9} M or less, 1×10^{-10} M or less, or 1×10^{-11} M or less; optionally, wherein the binding affinity is measured by equilibrium dissociation constant (K_D) to a cy-CD96 polypeptide of SEQ ID NO: 7;

the antibody binds to human CD96 isoform 1 expressed on a cell with an antibody EC_{50} concentration of 5 nM or less, 1 nM or less, or 0.1 nM or less; optionally, wherein the cell is a HEK293T cell;

the antibody binds to human CD96 isoform 2 expressed on a cell with an antibody EC_{50} concentration of 5 nM or less, 1 nM or less, or 0.1 nM or less; optionally, wherein the cell is a CHO cell;

the antibody binds to human PBMCs with an antibody EC_{50} concentration of 5 nM or less, 1 nM or less, or 0.1 nM or less;

the antibody binds to cynomolgus monkey PBMCs with an antibody EC_{50} concentration of 5 nM or less, 1 nM or less, or 0.1 nM or less;

the antibody decreases binding of human CD155 to human CD96 expressed on CHO cells by at least 90%, at least 95%, at least 99%, or 100%; optionally, wherein at a human CD155 concentration of 10 nM the antibody has an IC_{50} of 5 nM or less, 1 nM or less, or 0.1 nM or less;

the antibody increases IFNγ secretion from human PBMCs by at least 1.8-fold, at least 1.9-fold, at least 2-fold, at least 2.1 fold, or at least 2.20-fold; optionally, wherein the antibody has an EC_{50} concentration of 0.3 nM or less, 0.2 nM or less, or 0.1 nM or less;

the antibody increases IL-2 secretion from human PBMCs by at least 1.8-fold, at least 1.9-fold, at least 2-fold, at least 2.1 fold, or at least 2.20-fold; optionally, wherein the antibody has an EC_{50} concentration of 0.3 nM or less, 0.2 nM or less, or 0.1 nM or less;

the antibody binds to human and/or cynomolgus monkey CD226 expressed on cells, optionally HEK293 cells, with an antibody EC_{50} concentration of 500 nM or less, 300 nM or less, 250 nM or less, 200 nM or less, 150 nM or less, 100 nM or less, or 50 nM or less;

the antibody binds to human CD226 with a binding affinity of 1 μM or less, 900 nM or less, 800 nM or less, 700 nM or less, from 1 μM to 50 nM, or from 800 nM to 200 nM; optionally, wherein the binding affinity is measured by equilibrium dissociation constant (K_D) to a hu-CD226 polypeptide of SEQ ID NO: 482; and/or

the antibody binds to cynomolgus monkey CD226 with a binding affinity of 1 μM or less, 800 nM or less, 500 nM or less, 300 nM or less, 100 nM or less, from 1 μM to 50 nM, from 500 nM to 60 nM, or from 300 nM to 70 nM; optionally, wherein the binding affinity is measured by equilibrium dissociation constant (K_D) to a cyCD226 polypeptide of SEQ ID NO: 483.

10. The antibody of claim **1**, wherein the antibody specifically binds to one or more amino acid residues within domain 1 of hu-CD96, wherein domain 1 comprises the amino acid sequence of SEQ ID NO: 5.

11. An isolated polynucleotide or vector encoding the antibody of claim **1**.

12. (canceled)

13. A pharmaceutical composition comprising an anti-CD96 antibody of claim **1** and a pharmaceutically acceptable carrier.

14. A method of treating a CD96 mediated disease in a subject, the method comprising administering to the subject a therapeutically effective amount of an antibody of claim **1**.

15. An anti-CD96 antibody that competes with antibody Nk92.39 for binding to an epitope of human CD96 and has a binding affinity of 1×10^{-8} M or less; optionally, wherein the binding affinity to human CD96 is measured by equilibrium dissociation constant (K_D) to a hu-CD96 polypeptide of SEQ ID NO: 4; optionally, wherein the antibody binds to human and/or cynomolgus monkey CD226 with a binding affinity of 50 nM to 1 μM; optionally wherein the binding affinity to human and/or cynomolgus monkey CD226 is measured by K_D to a hu-CD226 polypeptide of SEQ ID NO: 482 and/or a cy-CD226 polypeptide of SEQ ID NO:483.

16. The antibody of claim **10**, wherein the one or more amino acid residues comprise T28 and V29 of SEQ ID NO: 5.

17. An isolated host cell comprising the polynucleotide or vector of claim **11**; optionally, wherein the host cell is selected from a Chinese hamster ovary (CHO) cell, a myeloma cell (e.g., Y0, NS0, Sp2/0), a monkey kidney cell (COS-7), a human embryonic kidney line (293), a baby hamster kidney cell (BHK), a mouse Sertoli cell (e.g., TM4), an African green monkey kidney cell (VERO-76), a human cervical carcinoma cell (HELA), a canine kidney cell, a human lung cell (W138), a human liver cell (Hep G2), a mouse mammary tumor cell, a TR1 cell, a Medical Research Council 5 (MRC 5) cell, and a FS4 cell.

18. A method of producing an antibody comprising culturing the host cell of claim **17** so that an antibody is produced.

19. The composition of claim **13**, wherein the composition further comprises a chemotherapeutic agent or an