

CLAIMS

1. An isolated monoclonal antibody or an antigen-binding portion thereof that binds specifically to human IgG, wherein the antibody or portion comprises heavy chain complementarity-determining region (CDR) 1-3 and light chain CDR1-3 respectively comprising
SEQ ID NOs: 27-32,
SEQ ID NOs: 33-38,
SEQ ID NOs: 39-44,
SEQ ID NOs: 45-50,
SEQ ID NOs: 51-56, or
SEQ ID NOs: 57-62.
2. The monoclonal antibody or antigen-binding portion of claim 1, wherein the antibody or portion comprises heavy chain variable domain (VH) and light chain variable domain (VL) respectively comprising
SEQ ID NOs: 13 and 19,
SEQ ID NOs: 14 and 20,
SEQ ID NOs: 15 and 21,
SEQ ID NOs: 16 and 22,
SEQ ID NOs: 17 and 23, or
SEQ ID NOs: 18 and 24.
3. The monoclonal antibody of claim 1 or 2, wherein the antibody is a rabbit IgG antibody.
4. The monoclonal antibody of any one of claims 1-3, comprising a heavy chain constant region amino acid sequence of SEQ ID NO: 25, and/or a light chain constant region amino sequence of SEQ ID NO: 26.
5. The monoclonal antibody of claim 1, comprising a heavy chain and a light chain having the amino acid sequences of
SEQ ID NOs: 63 and 69,
SEQ ID NOs: 64 and 70,

SEQ ID NOs: 65 and 71,
SEQ ID NOs: 66 and 72,
SEQ ID NOs: 67 and 73, or
SEQ ID NOs: 68 and 74,
respectively, with or without the leader sequences.

6. The monoclonal antibody or antigen-binding portion of any one of claims 1-5, further comprising a detectable label.

7. A composition or a kit comprising the monoclonal antibody or antigen-binding portion of any one of claims 1-6 in an aqueous buffered solution.

8. An isolated nucleic acid molecule encoding the heavy chain, the light chain, or both, of the monoclonal antibody or antigen-binding portion of any one of claims 1-6.

9. The nucleic acid molecule of claim 8, comprising SEQ ID NOs: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and/or 12.

10. The nucleic acid molecule of claim 9, comprising
SEQ ID NOs: 1 and 7,
SEQ ID NOs: 2 and 8,
SEQ ID NOs: 3 and 9,
SEQ ID NOs: 4 and 10,
SEQ ID NOs: 5 and 11, or
SEQ ID NOs: 6 and 12.

11. An expression construct comprising the nucleic acid molecule of any one of claims 8-10.

12. A host cell comprising nucleotide sequences encoding the heavy chain and the light chain of the monoclonal antibody or antigen-binding portion of any one of claims 1-6.

13. The host cell of claim 12, wherein the host cell is a mammalian cell.

14. A method of producing an antibody or an antigen-binding portion thereof, comprising:
- culturing the host cell of claim 13 under conditions that allow expression of the heavy chain and light chain of the antibody or portion, and
 - isolating the antibody or portion from the cultured cell or the supernatant of the cell culture.
15. A method of detecting human IgG or a fragment thereof in a sample, comprising contacting the sample with one or more monoclonal antibodies or antigen-binding portions of any one of claims 1-6.
16. The method of claim 15, wherein the sample is obtained from an animal that has been administered with an antibody comprising a human IgG constant region or a fragment thereof.
17. The method of claim 15 or 16, wherein the human IgG constant region is a human IgG1, IgG2, IgG3, or IgG4 constant region.
18. The method of claim 15 or 16, wherein the animal has been administered with a Fab or F(ab')₂ fragment of an antibody comprising a human IgG1, IgG2, IgG3, or IgG4 constant region.
19. The method of any one of claims 15-18, wherein the sample is a tissue sample, optionally a blood, serum, or plasma sample.
20. The method of any one of claims 15-19, wherein the animal is a non-human primate, optionally cynomolgus monkey or rhesus monkey.