What is Claimed is:

1. An anti-human CD52 antibody or an antigen-binding fragment thereof, wherein said antibody comprises a heavy chain variable region and a light chain variable region, wherein said heavy chain variable region comprises:

(a) the heavy chain CDR1 of SEQ ID NO: 7;

(b) the heavy chain CDR2 of SEQ ID NO: 8; and

(c) the heavy chain CDR3 of SEQ ID NO: 9,

wherein said light chain variable region comprises

(a) the light chain CDR1 of SEQ ID NO: 86, wherein residue 11 in SEQ ID NO: 86 is K, R, or Q;

(b) the light chain CDR2 of SEQ ID NO: 34; and

(c) the light chain CDR3 of SEQ ID NO: 35.

2. The antibody or fragment according to claim 1, wherein said antibody or fragment demonstrates increased stability relative to an antibody comprising the heavy chain amino acid sequence of SEQ ID NO: 3 without the signal sequence and the light chain amino acid sequence of SEQ ID NO: 4 without the signal sequence.

3. The antibody or fragment according to claim 1, wherein residue 11 in SEQ ID NO: 86 is K (SEQ ID NO: 24).

4. The antibody or fragment according to claim 1, wherein residue 11 in SEQ ID NO: 86 is R (SEQ ID NO: 29).

5. The antibody or fragment according to claim 1, wherein residue 11 in SEQ ID NO: 86 is Q (SEQ ID NO: 28).

6. The antibody or fragment according to any one of claims 1-5, wherein:

a) said heavy chain variable region comprises SEQ ID NO: 59; or

b) said light chain variable region comprises a sequence selected from the group consisting of SEQ ID NOs: 74, 78, and 79.

7. An anti-human CD52 antibody or an antigen-binding fragment thereof, wherein said antibody comprises:

a) a heavy chain comprising the amino acid sequence of SEQ ID NO: 59 and a light chain comprising the amino acid sequence of SEQ ID NO: 74;

b) a heavy chain comprising the amino acid sequence of SEQ ID NO: 59 and a light chain comprising the amino acid sequence of SEQ ID NO: 78; or

c) a heavy chain comprising the amino acid sequence of SEQ ID NO: 59 and a light chain comprising the amino acid sequence of SEQ ID NO: 79.

8. The antibody according to any one of claims 1-5, comprising:

a) a heavy chain of SEQ ID NO: 3 without the signal sequence; or

b) a light chain selected from the group consisting of SEQ ID NOs: 49, 53, and 54.

9. An antibody comprising:

(a) a heavy chain amino acid sequence of SEQ ID NO: 3 without the signal sequence and a light chain amino acid sequence of SEQ ID NO: 49;

(b) a heavy chain amino acid sequence of SEQ ID NO: 3 without the signal sequence and a light chain amino acid sequence of SEQ ID NO: 53; or

(c) a heavy chain amino acid sequence of SEQ ID NO: 3 without the signal sequence and a light chain amino acid sequence of SEQ ID NO: 54.

10. The antibody according to any one of claims 1-7, wherein said antibody is an immunoglobulin G (IgG).

11. The fragment according to any one of claims 1-7, wherein said fragment is selected from the group consisting of an scFv fragment, an Fab fragment, an Fv fragment, an $F(ab')_2$ fragment, a minibody, a diabody, a triabody, and a tetrabody.

12. The antibody or fragment according to any one of claims 1-7, wherein said antibody comprises a human Fc region.

13. The antibody or fragment according to claim 12, wherein said human Fc region is a human IgG1, IgG2, IgG3, or IgG4 Fc region.

14. The antibody or fragment according to claim 1, wherein said antibody is humanized.

15. The antibody or fragment according to any one of claims 1-14, wherein the heavy chain C-terminal lysine is cleaved.

16. An isolated nucleic acid molecule comprising a nucleotide sequence that encodes the light chain or an antigen-binding fragment thereof, or both the heavy chain or an antigen-binding fragment thereof and the light chain or an antigen-binding fragment thereof, of the antibody or fragment according to any one of claims 1-15.

17. The isolated nucleic acid molecule according to claim 16, comprising the nucleotide sequence of SEQ ID NO: 101, 105, 106, 125, 129, or 130.

18. A recombinant vector comprising the nucleic acid molecule of claim 16 or 17.

19. The vector according to claim 18, wherein said vector is an expression vector.

20. An isolated host cell comprising a nucleotide sequence that encodes the light chain or an antigen-binding fragment thereof, or both the heavy chain or an antigen-binding fragment thereof and the light chain or an antigen-binding fragment thereof, of the antibody or fragment according to any one of claims 1-15.

21. An isolated cell line that produces the antibody or fragment according to any one of claims 1-15 or the light chain of the antibody or fragment.

22. A method of making an anti-human CD52 antibody or an antigen-binding fragment thereof, comprising (1) maintaining a cell comprising a nucleotide sequence encoding the heavy chain or an antigen-binding fragment thereof, and a nucleotide sequence encoding the light chain or an antigen-binding fragment thereof, of the antibody or fragment according to any one of claims 1-15 under conditions appropriate for expression of the antibody or fragment; and (2) recovering the antibody or fragment, wherein the method is not carried out in a human.

23. A composition comprising the antibody or antigen-binding fragment according to any one of claims 1-15 and a pharmaceutically acceptable vehicle or carrier.

24. Use of the antibody or antigen-binding fragment according to any one of claims 1-15 for the preparation of a medicament for treating an autoimmune disease in a patient in need thereof.

25. The use of claim 24, wherein the autoimmune disease is multiple sclerosis.

26. Use of the antibody or antigen-binding fragment according to any one of claims 1-15 for the preparation of a medicament for treating cancer in a patient in need thereof.

27. The use of claim 26, wherein the cancer is chronic lymphocytic leukemia.

28. Use of the antibody or antigen-binding fragment according to any one of claims 1-15 for the preparation of a medicament for inhibiting angiogenesis in a patient in need thereof.

29. Use of the antibody or antigen-binding fragment according to any one of claims 1-15 for the preparation of a medicament for treating a patient in need thereof.

30. The use of claim 29, wherein the patient is in need of immunosuppression.

31. Use of the antibody or antigen-binding fragment according to any one of claims 1-15 for the preparation of a medicament for targeting $CD52^+$ cells in a patient in need thereof.

32. The use of any one of claims 24-31, wherein the patient is human.