Claims

1. A humanized monoclonal antibody or an antibody fragment thereof, selected from the group of

1) a humanized monoclonal antibody or an antibody fragment thereof, having

a heavy chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 2 as CDR1, the amino acid sequence of SEQ ID NO: 3 as CDR2 and the amino acid sequence of SEQ ID NO: 8 as CDR3, and

a light chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 5 as CDR1, the amino acid sequence of SEQ ID NO: 6 as CDR2 and the amino acid sequence of SEQ ID NO: 7 as CDR3;

2) a humanized monoclonal antibody or an antibody fragment thereof, having

a heavy chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 2 as CDR1, the amino acid sequence of SEQ ID NO: 3 as CDR2 and the amino acid sequence of SEQ ID NO: 8 as CDR3, and

a light chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 5 as CDR1, the amino acid sequence of SEQ ID NO: 6 as CDR2 and the amino acid sequence of SEQ ID NO: 9 as CDR3;

3) a humanized monoclonal antibody or an antibody fragment thereof, having

a heavy chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 2 as CDR1, the amino acid sequence of SEQ ID NO: 3 as CDR2 and the amino acid sequence of SEQ ID NO: 10 as CDR3, and

a light chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 5 as CDR1, the

amino acid sequence of SEQ ID NO: 6 as CDR2 and the amino acid sequence of SEQ ID NO: 7 as CDR3;

4) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 2 as CDR1, the amino acid sequence of SEQ ID NO: 3 as CDR2 and the amino acid sequence of SEQ ID NO: 10 as CDR3, and

a light chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 5 as CDR1, the amino acid sequence of SEQ ID NO: 6 as CDR2 and the amino acid sequence of SEQ ID NO: 9 as CDR3;

5) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 11 as CDR1, the amino acid sequence of SEQ ID NO: 12 as CDR2 and the amino acid sequence of SEQ ID NO: 10 as CDR3, and

a light chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 5 as CDR1, the amino acid sequence of SEQ ID NO: 6 as CDR2 and the amino acid sequence of SEQ ID NO: 7 as CDR3;

6) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 11 as CDR1, the amino acid sequence of SEQ ID NO: 12 as CDR2 and the amino acid sequence of SEQ ID NO: 10 as CDR3, and

a light chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 5 as CDR1, the amino acid sequence of SEQ ID NO: 6 as CDR2 and the amino acid sequence of SEQ ID NO: 9 as CDR3;

7) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 19 as CDR1, the amino acid sequence of SEQ ID NO: 14 as CDR2 and the amino acid sequence of SEQ ID NO: 20 as CDR3, and

a light chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 16 as CDR1, the amino acid sequence of SEQ ID NO: 17 as CDR2 and the amino acid sequence of SEQ ID NO: 18 as CDR3;

8) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 19 as CDR1, the amino acid sequence of SEQ ID NO: 14 as CDR2 and the amino acid sequence of SEQ ID NO: 20 as CDR3, and

a light chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 16 as CDR1, the amino acid sequence of SEQ ID NO: 17 as CDR2 and the amino acid sequence of SEQ ID NO: 21 as CDR3;

9) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 22 as CDR1, the amino acid sequence of SEQ ID NO: 23 as CDR2 and the amino acid sequence of SEQ ID NO: 24 as CDR3, and

a light chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 16 as CDR1, the amino acid sequence of SEQ ID NO: 17 as CDR2 and the amino acid sequence of SEQ ID NO: 18 as CDR3;

10) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 22 as CDR1, the amino acid sequence of SEQ ID NO: 23 as CDR2 and the amino acid sequence of SEQ ID NO: 24 as CDR3, and

a light chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 16 as CDR1, the amino acid sequence of SEQ ID NO: 17 as CDR2 and the amino acid sequence of SEQ ID NO: 21 as CDR3;

11) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 25 as CDR1, the amino acid sequence of SEQ ID NO: 106 as CDR2 and the amino acid sequence of SEQ ID NO: 24 as CDR3, and

a light chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 16 as CDR1, the amino acid sequence of SEQ ID NO: 17 as CDR2 and the amino acid sequence of SEQ ID NO: 18 as CDR3;

12) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 25 as CDR1, the amino acid sequence of SEQ ID NO: 106 as CDR2 and the amino acid sequence of SEQ ID NO: 24 as CDR3, and

a light chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 16 as CDR1, the amino acid sequence of SEQ ID NO: 17 as CDR2 and the amino acid sequence of SEQ ID NO: 21 as CDR3;

13) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 44 as CDR1, the

amino acid sequence of SEQ ID NO: 45 as CDR2 and the amino acid sequence of SEQ ID NO: 46 as CDR3, and

a light chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 47 as CDR1, the amino acid sequence of SEQ ID NO: 48 as CDR2 and the amino acid sequence of SEQ ID NO: 49 as CDR3;

14) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 44 as CDR1, the amino acid sequence of SEQ ID NO: 45 as CDR2 and the amino acid sequence of SEQ ID NO: 50 as CDR3, and

a light chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 47 as CDR1, the amino acid sequence of SEQ ID NO: 48 as CDR2 and the amino acid sequence of SEQ ID NO: 49 as CDR3;

15) a humanized monoclonal antibody or an antibody fragment thereof,

having a heavy chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 44 as CDR1, the amino acid sequence of SEQ ID NO: 45 as CDR2 and the amino acid sequence of SEQ ID NO: 51 as CDR3, and

a light chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 47 as CDR1, the amino acid sequence of SEQ ID NO: 48 as CDR2 and the amino acid sequence of SEQ ID NO: 49 as CDR3;

16) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 52 as CDR1, the amino acid sequence of SEQ ID NO: 45 as CDR2 and the amino acid sequence of SEQ ID NO: 53 as CDR3, and

a light chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 47 as CDR1, the amino acid sequence of SEQ ID NO: 48 as CDR2 and the amino acid sequence of SEQ ID NO: 49 as CDR3.

2. The humanized monoclonal antibody or an antibody fragment thereof according to claim 1, wherein said antibody fragment is Fab, $F(ab')_2$, Fab', scFv, dsFv or Diabody.

3. A humanized monoclonal antibody or an antibody fragment thereof,
selected from the group of
1) a humanized monoclonal antibody or an antibody fragment thereof,
having
a heavy chain variable region having the amino acid sequence of SEQ ID NO: 60, and
a light chain variable region having the amino acid sequence of SEQ ID NO: 61;
2) a humanized monoclonal antibody or an antibody fragment thereof,
having
a heavy chain variable region having the amino acid sequence of SEQ ID NO: 62, and
a light chain variable region having the amino acid sequence of SEQ ID NO: 61;
3) a humanized monoclonal antibody or an antibody fragment thereof,
having
a heavy chain variable region having the amino acid sequence of SEQ ID NO: 63, and
a light chain variable region having the amino acid sequence of SEQ ID NO: 61;
4) a humanized monoclonal antibody or an antibody fragment thereof,
having
a heavy chain variable region having the amino acid sequence of SEQ ID NO: 63, and
a light chain variable region having the amino acid sequence of SEQ ID NO: 64;
5) a humanized monoclonal antibody or an antibody fragment thereof,
having
a heavy chain variable region having the amino acid sequence of SEQ ID NO: 65, and
a light chain variable region having the amino acid sequence of SEQ ID NO: 61;
6) a humanized monoclonal antibody or an antibody fragment thereof,
having
a heavy chain variable region having the amino acid sequence of SEQ ID NO: 65, and
a light chain variable region having the amino acid sequence of SEQ ID NO: 64;
7) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 66, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 61;

8) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 66, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 64;

9) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 62, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 67;

10) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 62, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 68;

11) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 62, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 69;

12) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 70, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 71;

13) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 72, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 71;

14) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 72, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 73;

15) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 74, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 71;

16) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 74, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 73;

17) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 75, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 71;

18) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 75, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 73;

19) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 70, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 76;

20) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 77, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 78;

21) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 77, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 79;

22) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 77, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 80;

23) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 81, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 79;

24) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 81, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 78;

25) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 82, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 83;

26) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 82, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 84;

27) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 82, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 85;

28) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 86, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 85;

29) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 87, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 88;

30) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 87, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 89;

31) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 87, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 90;

32) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 91, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 92;

33) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 93, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 92;

34) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 91, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 94;

35) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 93, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 94;

36) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 95, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 96;

37) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 97, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 96;

38) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 98, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 96;

39) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 99, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 96;

40) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 100, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 101;

41) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 100, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 102;

42) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 100, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 103;

43) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 100, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 104; and

44) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 100, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 105.

4. The humanized monoclonal antibody or an antibody fragment thereof according to claim 3, wherein said antibody fragment is Fab, $F(ab')_2$, Fab', scFv, dsFv or Diabody.

5. A humanized monoclonal antibody or an antibody fragment thereof,

selected from the group of

1) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 60, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 64;

2) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 60, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 67;

3) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 60, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 68;

4) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 60, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 69;

5) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 62, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 64;

6) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 63, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 67;

7) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 63, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 68;

8) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 63, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 69;

9) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 65, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 67;

10) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 65, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 68;

11) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 65, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 69;

12) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 66, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 67;

13) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 66, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 68;

14) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 66, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 69;

15) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 70, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 73;

16) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 70, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 78;

17) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 70, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 79;

18) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 70, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 80;

19) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 72, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 76;

20) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 72, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 78;

21) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 72, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 79;

22) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 72, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 80;

23) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 74, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 76;

24) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 74, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 78;

25) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 74, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 79;

26) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 74, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 80;

27) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 75, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 76;

28) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 75, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 78;

29) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 75, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 79;

30) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 75, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 80;

31) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 77, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 71;

32) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 77, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 73;

33) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 77, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 76;

34) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 81, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 71;

35) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 81, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 73;

36) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 81, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 76;

37) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 81, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 80;

38) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 86, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 83; and

39) a humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 86, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 84.

6. The humanized monoclonal antibody or an antibody fragment thereof according to claim 5, wherein said antibody fragment is Fab, $F(ab')_2$, Fab', scFv, dsFv or Diabody.

7. A pharmaceutical composition for treating or preventing a disease related to vascular endothelial lipase, comprising the humanized monoclonal antibody or the antibody fragment thereof of claim 1.

8. The pharmaceutical composition of claim 7, wherein the disease related to vascular endothelial lipase is dyslipidemia.

9. A pharmaceutical composition for treating or preventing a disease related to vascular endothelial lipase, comprising the humanized monoclonal antibody or the antibody

fragment thereof of claim 3.

10. The pharmaceutical composition of claim 9, wherein the disease related to vascular endothelial lipase is dyslipidemia.

11. A pharmaceutical composition for treating or preventing a disease related to vascular endothelial lipase, comprising the humanized monoclonal antibody or the antibody fragment thereof of claim 5.

12. The pharmaceutical composition of claim 11, wherein the disease related to vascular endothelial lipase is dyslipidemia.

13. A humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 25 as CDR1, the amino acid sequence of SEQ ID NO: 106 as CDR2 and the amino acid sequence of SEQ ID NO: 24 as CDR3, and

a light chain variable region

including three CDRs having the amino acid sequence of SEQ ID NO: 16 as CDR1, the amino acid sequence of SEQ ID NO: 17 as CDR2 and the amino acid sequence of SEQ ID NO: 18 as CDR3.

14. A pharmaceutical composition for treating or preventing a disease related to vascular endothelial lipase, comprising the humanized monoclonal antibody or the antibody fragment thereof of claim 13.

15. The pharmaceutical composition of claim 14, wherein the disease related to vascular endothelial lipase is dyslipidemia.

16. A humanized monoclonal antibody or an antibody fragment thereof,

having

a heavy chain variable region having the amino acid sequence of SEQ ID NO: 75, and

a light chain variable region having the amino acid sequence of SEQ ID NO: 76.

17. A pharmaceutical composition for treating or preventing a disease related to vascular endothelial lipase, comprising the humanized monoclonal antibody or the antibody fragment thereof of claim 16.

18. The pharmaceutical composition of claim 17, wherein the disease related to vascular endothelial lipase is dyslipidemia.