

1. An isolated antibody or fragment thereof that binds human ANGPTL4, comprising
 (i) a heavy chain variable region HCDR1 selected from the group consisting of SEQ ID NO: 7, 32, 52, 72, 92, 112, and 132; HCDR2 selected from the group consisting of SEQ ID NO: 8, 33, 53, 73, 93, 113, and 133; HCDR3 selected from the group consisting of 9, 34, 54, 74, 94, 114, and 134; and a light chain variable region LCDR1 selected from the group consisting of SEQ ID NO: 17, 42, 62, 82, 102, 122, and 142; LCDR2 selected from the group consisting of SEQ ID NO: 18, 43, 63, 83, 103, 123, and 143; and LCDR3 selected from the group consisting of SEQ ID NO: 19, 44, 64, 84, 104, 124, and 144; or

(ii) a heavy chain variable region HCDR1 selected from the group consisting of SEQ ID NO: 10, 35, 55, 75, 95, 115, and 135; HCDR2 selected from the group consisting of SEQ ID NO: 11, 36, 56, 76, 96, 116, and 136; HCDR3 selected from the group consisting of 12, 37, 57, 77, 97, 117, and 137; and a light chain variable region LCDR1 selected from the group consisting of SEQ ID NO: 20, 45, 65, 85, 105, 125, and 145; LCDR2 selected from the group consisting of SEQ ID NO: 21, 46, 66, 86, 106, 126, and 146; and LCDR3 selected from the group consisting of SEQ ID NO: 22, 47, 67, 87, 107, 127, and 147.

2. The antibody or fragment according to claim 1, wherein said antibody or fragment blocks LPL binding to ANGPTL4 protein.

3. The antibody or fragment thereof according to claim 1, wherein the antibody or fragment comprises:

(i) a heavy chain variable region comprising the amino acid sequence of SEQ ID NO: 38 and a light chain variable region comprising the amino acid sequence of SEQ ID NO: 48;

(ii) a heavy chain variable region comprising the amino acid sequence of SEQ ID NO: 58 and a light chain variable region comprising the amino acid sequence of SEQ ID NO: 68;

(iii) a heavy chain variable region comprising the amino acid sequence of SEQ ID NO: 78 and a light chain variable region comprising the amino acid sequence of SEQ ID NO: 88;

(iv) a heavy chain variable region comprising the amino acid sequence of SEQ ID NO: 98 and a light chain variable region comprising the amino acid sequence of SEQ ID NO: 108;

(v) a heavy chain variable region comprising the amino acid sequence of SEQ ID NO: 118 and a light chain variable region comprising the amino acid sequence of SEQ ID NO: 128; or

(vi) a heavy chain variable region comprising the amino acid sequence of SEQ ID NO: 138 and a light chain variable region comprising the amino acid sequence of SEQ ID NO: 148.

4. The antibody or fragment according to claim 1, which comprises a heavy chain comprising the amino acid sequence of SEQ ID NO: 28 and a light chain comprising the amino acid sequence of SEQ ID NO: 25.

5. The antibody or fragment according to claim 1, which comprises:

(i) a heavy chain comprising the amino acid sequence of SEQ ID NO: 15 and a light chain comprising the amino acid sequence of SEQ ID NO: 25;

(ii) a heavy chain comprising the amino acid sequence of SEQ ID NO: 40 and a light chain comprising the amino acid sequence of SEQ ID NO: 50;

(iii) a heavy chain comprising the amino acid sequence of SEQ ID NO: 60 and a light chain comprising the amino acid sequence of SEQ ID NO: 70;

(iv) a heavy chain comprising the amino acid sequence of SEQ ID NO: 80 and a light chain comprising the amino acid sequence of SEQ ID NO: 90;

(v) a heavy chain comprising the amino acid sequence of SEQ ID NO: 100 and a light chain comprising the amino acid sequence of SEQ ID NO: 110;

(vi) a heavy chain comprising the amino acid sequence of SEQ ID NO: 120 and a light chain comprising the amino acid sequence of SEQ ID NO: 130; or

(vii) a heavy chain comprising the amino acid sequence of SEQ ID NO: 140 and a light chain comprising the amino acid sequence of SEQ ID NO: 150.

6. The antibody or fragment thereof according to claim 1, wherein the antibody or fragment comprises a heavy chain variable region comprising the amino acid sequence of SEQ ID NO: 13 and a light chain variable region comprising the amino acid sequence of SEQ ID NO: 23.

7. The antibody or fragment according to claim 1, wherein the antibody or fragment comprises a VH selected from the group consisting of SEQ ID NO: 13, 38, 58, 78, 98, 118, and 138 or an amino acid sequence with 90-99% identity thereof; and a VL selected from the group consisting of SEQ ID NO: 23, 48, 68, 88, 108, 128, and 148 or an amino acid sequence with 90-99% identity thereof.

8. The antibody or fragment thereof according to claim 1, comprising a heavy chain variable domain selected from the group consisting of SEQ ID NO: 13, 38, 58, 78, 98, 118, and 138; and light chain variable domain sequence selected from the group consisting of SEQ ID NO: 23, 48, 68, 88, 108, 128, and 148.

9. The isolated antibody or fragment thereof according to claim 1, comprising a heavy chain variable region CDR1 of SEQ ID NO: 7; CDR2 of SEQ ID NO: 8; CDR3 of SEQ ID NO: 9; a light chain variable region CDR1 of SEQ ID NO: 17; CDR2 of SEQ ID NO: 18; and CDR3 of SEQ ID NO: 19.

10. The isolated antibody or fragment thereof according to claim 11, comprising (i) a heavy chain variable region CDR1 of SEQ ID NO: 32; CDR2 of SEQ ID NO: 33; CDR3 of SEQ ID NO: 34; a light chain variable region CDR1 of SEQ ID NO: 42; CDR2 of SEQ ID NO: 43; and CDR3 of SEQ ID NO: 44

(ii) a heavy chain variable region CDR1 of SEQ ID NO: 52; CDR2 of SEQ ID NO: 53; CDR3 of SEQ ID NO: 54; a light chain variable region CDR1 of SEQ ID NO: 62; CDR2 of SEQ ID NO: 63; and CDR3 of SEQ ID NO: 64

(iii) a heavy chain variable region CDR1 of SEQ ID NO: 72; CDR2 of SEQ ID NO: 73; CDR3 of SEQ ID NO: 74; a light chain variable region CDR1 of SEQ ID NO: 82; CDR2 of SEQ ID NO: 83; and CDR3 of SEQ ID NO: 84

(iv) a heavy chain variable region CDR1 of SEQ ID NO: 92; CDR2 of SEQ ID NO: 93; CDR3 of SEQ ID NO: 94; a light chain variable region CDR1 of SEQ ID NO: 102; CDR2 of SEQ ID NO: 103; and CDR3 of SEQ ID NO: 104;

(v) a heavy chain variable region CDR1 of SEQ ID NO: 112; CDR2 of SEQ ID NO: 113; CDR3 of SEQ ID NO: 114; a light chain variable region CDR1 of SEQ ID NO: 122; CDR2 of SEQ ID NO: 123; and CDR3 of SEQ ID NO: 124; or

(vi) a heavy chain variable region CDR1 of SEQ ID NO: 132; CDR2 of SEQ ID NO: 133; CDR3 of SEQ ID NO: 134; a light chain variable region CDR1 of SEQ ID NO: 142; CDR2 of SEQ ID NO: 143; and CDR3 of SEQ ID NO: 144.

11. The isolated antibody or fragment thereof according to claim 1, comprising a heavy chain variable region CDR1 of SEQ ID NO: 10; CDR2 of SEQ ID NO: 11; CDR3 of SEQ ID NO: 12; a light chain variable region CDR1 of SEQ ID NO: 20; CDR2 of SEQ ID NO: 21; and CDR3 of SEQ ID NO: 22.

12. An isolated antibody or fragment thereof according to claim 1, comprising

(i) a heavy chain variable region CDR1 of SEQ ID NO: 35; CDR2 of SEQ ID NO: 36; CDR3 of SEQ ID NO: 37; a light chain variable region CDR1 of SEQ ID NO: 45; CDR2 of SEQ ID NO: 46; and CDR3 of SEQ ID NO: 47;

(ii) a heavy chain variable region CDR1 of SEQ ID NO: 55; CDR2 of SEQ ID NO: 56; CDR3 of SEQ ID NO: 57; a light chain variable region CDR1 of SEQ ID NO: 65; CDR2 of SEQ ID NO: 66; and CDR3 of SEQ ID NO: 67;

(iii) a heavy chain variable region CDR1 of SEQ ID NO: 75; CDR2 of SEQ ID NO: 76; CDR3 of SEQ ID NO: 77; a light chain variable region CDR1 of SEQ ID NO: 85; CDR2 of SEQ ID NO: 86; and CDR3 of SEQ ID NO: 87;

(iv) a heavy chain variable region CDR1 of SEQ ID NO: 95; CDR2 of SEQ ID NO: 96; CDR3 of SEQ ID NO: 97; a light chain variable region CDR1 of SEQ ID NO: 105; CDR2 of SEQ ID NO: 106; and CDR3 of SEQ ID NO: 107;

(v) a heavy chain variable region CDR1 of SEQ ID NO: 115; CDR2 of SEQ ID NO: 116; CDR3 of SEQ ID NO: 117; a light chain variable region CDR1 of SEQ ID NO: 125; CDR2 of SEQ ID NO: 126; and CDR3 of SEQ ID NO: 127; or

(vi) a heavy chain variable region CDR1 of SEQ ID NO: 135; CDR2 of SEQ ID NO: 136; CDR3 of SEQ ID NO: 137; a light chain variable region CDR1 of SEQ ID NO: 145; CDR2 of SEQ ID NO: 146; and CDR3 of SEQ ID NO: 147.

13. The antibody or fragment thereof according to claim 1, which is a monoclonal antibody, humanized antibody, human antibody, single chain antibody, Fab fragment, Fv fragment, F(ab')₂ fragment, or scFv.

14. A bispecific antibody comprising the antibody or fragment thereof according to any one of claims 1-13.

15. A pharmaceutical composition comprising an antibody or fragment thereof of any one of claims 1-14 and a pharmaceutically acceptable carrier.

16. A pharmaceutical composition comprising an antibody or fragment according to any one of claims 1-14 for use in the treatment of an ANGPTL4-disorder in a patient afflicted with an ANGPTL4-disorder.

17. An isolated antibody or fragment thereof that binds to the same epitope of human ANGPTL4 as, or cross-competes with, an isolated antibody or fragment according to any one of claims 1-13.

18. An isolated nucleic acid molecule comprising nucleotide sequences encoding a heavy chain variable region and/or a light chain variable region of the antibody or fragment thereof according to any one of claims 1-13.

19. An isolated nucleic acid molecule comprising nucleotide sequences encoding a heavy chain and/or a light chain of the antibody or fragment thereof according to any one of claims 1-13.

20. The isolated nucleic acid molecule of claim 18 or 19 comprising a nucleotide sequence set forth in Table 1.

21. An expression vector comprising the nucleic acid molecule of claim 18, 19, or 20.

22. A host cell comprising the vector of claim 21 or the nucleic acid molecule of claim 18, 19, or 20.

23. A method of making an antibody or fragment thereof which specifically binds human ANGPTL4, said method comprises culturing the host cell of claim 22 to express the antibody or fragment.

24. Use of the antibody or fragment thereof according to any one of claims 1-14 in the manufacture of a medicament for the treatment of an ANGPTL4-disorder in a patient, wherein the ANGPTL4-disorder is hypertriglyceridemia, dyslipidemia, metabolic syndrome, or type 2 diabetes.