CLAIMS

1. An isolated antibody or antigen binding fragment thereof which specifically binds to human lectin-type oxidized low density lipoprotein receptor 1 (LOX-1), wherein said antibody or fragment comprises a heavy chain variable region (VH) comprising complementarity determining regions HCDR1, HCDR2, and HCDR3, and a light chain variable region (VL) comprising complementarity determining regions LCDR1, LCDR2 and LCDR3, and wherein the HCDR1 comprises an amino acid sequence selected from the group consisting of SEQ ID NO: 8, 28, 48, 68 and 88; the HCDR2 comprises an amino acid sequence selected from the group consisting of SEQ ID NO: 9, 29, 49, 69 and 89; the HCDR3 comprises an amino acid sequence selected from the group consisting of 10, 30, 50, 70 and 90; the LCDR1 comprises an amino acid sequence selected from the group consisting of SEQ ID NO: 18, 38, 58, 78 and 98; the LCDR2 comprises an amino acid sequence selected from the group consisting of SEQ ID NO: 19, 39, 59, 79 and 99; and the LCDR3 comprises an amino acid sequence selected from the group consisting of SEQ ID NO: 20, 40, 60, 80, and 100.

2. The isolated antibody or antigen binding fragment of claim 1, wherein said antibody or fragment comprises (i) a VH selected from the group consisting of SEQ ID NO: 14, 34, 54, 74, or 94; and a VL selected from the group consisting of SEQ ID NO: 24, 44, 64, 84, or 104 or (ii) a VH and a VL comprising an amino acid sequence with 97-99% identity thereof.

3. The isolated antibody or fragment of claim 1, wherein said antibody or fragment comprises a variable heavy chain sequence selected from the group consisting of SEQ ID NO: 14, 34, 54, 74, or 94.

4. The isolated antibody or fragment of claim 1, wherein said antibody or fragment comprises a variable light chain sequence selected from the group consisting of SEQ ID NO: 24, 44, 64, 84, or 104.

5. The isolated antibody or fragment of any one of claims 1-4, wherein said antibody or fragment comprises a variable heavy chain selected from the group consisting of SEQ ID NO: 14, 34, 54, 74, or 94; and a variable light chain selected from the group consisting of SEQ ID NO: 24, 44, 64, 84, or 104.

6. An isolated antibody or antigen binding fragment thereof which specifically binds to human LOX-1, wherein said antibody or fragment comprises a VH comprising complemental-fry determining regions HCDR1, HCDR2 and HCDR3, and a VL comprising complementarity determining regions LCDR1, LCDR2 and LCDR3, and wherein the HCDR1 comprises an amino acid sequence selected from the group consisting of SEQ ID NO: 11, 31, 51, 71 and 91; the HCDR2 comprises an amino acid sequence selected from the group consisting of SEQ ID NO: 12, 32, 52, 72 and 92; the HCDR3 comprises an amino acid sequence selected from the group consisting of 13, 33, 53, 73, and 93; the LCDR1 comprises an amino acid sequence selected from the group consisting of SEQ ID NO: 21, 41, 61, 81, and 101; the LCDR2 comprises an amino acid sequence selected from the group consisting of SEQ ID NO: 22, 42, 62, 82, and 102; and the LCDR3 comprises an amino acid sequence selected from the group consisting of SEQ ID NO: 23, 43, 63, 83, and 103.

7. An isolated antibody or antigen binding fragment thereof which specifically binds to human lectin-type oxidized low density lipoprotein receptor 1 (LOX-1), wherein said antibody or fragment comprises a heavy chain variable region comprising complementarity determining regions HCDR1, HCDR2 and HCDR3 and a light chain variable region comprising complementarity determining regions LCDR1, LCDR2 and LCDR3, wherein the HCDR1 comprises the amino acid sequence of SEQ ID NO: 8; the HCDR2 comprises the amino acid sequence of SEQ ID NO: 9; the HCDR3 comprises the amino acid sequence of SEQ ID NO: 10; the LCDR1 comprises the amino acid sequence of SEQ ID NO: 18; the LCDR2 comprises the amino acid sequence of SEQ ID NO: 19; and the LCDR3 comprises the amino acid sequence of SEQ ID NO: 20.

8. An isolated antibody or antigen binding fragment thereof which specifically binds to human LOX-1, wherein said antibody or fragment comprises a VH comprising the amino acid sequence of SEQ ID NO: 14 and a VL comprising the amino acid sequence of SEQ ID NO: 24.

9. The antibody of claim 8, which comprises a heavy chain comprising the amino acid sequence of SEQ ID NO: 16 and a light chain comprising the amino acid sequence of SEQ ID NO: 26.

10. The isolated antibody or fragment of claim 1, wherein:

(i) the HCDR1 comprises the amino acid sequence of SEQ ID NO: 8, the HCDR2 comprises the amino acid sequence of SEQ ID NO: 9, and the HCDR3 comprises the amino

acid sequence of SEQ ID NO: 10; the LCDR1 comprises the amino acid sequence of SEQ ID NO: 18, the LCDR2 comprises the amino acid sequence of SEQ ID NO: 19, and the LCDR3 comprises the amino acid sequence of SEQ ID NO: 20;

(ii) the HCDR1 comprises the amino acid sequence of SEQ ID NO: 28, the HCDR2 comprises the amino acid sequence of SEQ ID NO: 29, and the HCDR3 comprises the amino acid sequence of SEQ ID NO: 30; the LCDR1 comprises the amino acid sequence of SEQ ID NO: 38, the LCDR2 comprises the amino acid sequence of SEQ ID NO: 39, and LCDR3 comprises the amino acid sequence of SEQ ID NO: 40;

(iii) the HCDR1 comprises the amino acid sequence of SEQ ID NO: 48, the HCDR2 comprises the amino acid sequence of SEQ ID NO: 49, and the HCDR3 comprises the amino acid sequence of SEQ ID NO: 50; the LCDR1 comprises the amino acid sequence of SEQ ID NO: 58, the LCDR2 comprises the amino acid sequence of SEQ ID NO: 59, and the LCDR3 comprises the amino acid sequence of SEQ ID NO: 60;

(iv) the HCDR1 comprises the amino acid sequence of SEQ ID NO: 68, the HCDR2 comprises the amino acid sequence of SEQ ID NO: 69, and the HCDR3 comprises the amino acid sequence of SEQ ID NO: 70; the LCDR1 comprises the amino acid sequence of SEQ ID NO: 78, the LCDR2 comprises the amino acid sequence of SEQ ID NO: 79, and the LCDR3 comprises the amino acid sequence of SEQ ID NO: 80;

(v) the HCDR1 comprises the amino acid sequence of SEQ ID NO: 88, the HCDR2 comprises the amino acid sequence of SEQ ID NO: 89, and the HCDR3 comprises the amino acid sequence of SEQ ID NO: 90; the LCDR1 comprises the amino acid sequence of SEQ ID NO: 98, the LCDR2 comprises the amino acid sequence of SEQ ID NO: 99, and the LCDR3 comprises the amino acid sequence of SEQ ID NO: 100; or

(vi) the HCDR1 comprises the amino acid sequence of SEQ ID NO: 108, the HCDR2 comprises the amino acid sequence of SEQ ID NO: 109, and the HCDR3 comprises the amino acid sequence of SEQ ID NO: 110; the LCDR1 comprises the amino acid sequence of SEQ ID NO: 116, the LCDR2 comprises the amino acid sequence of SEQ ID NO: 117, and the LCDR3 comprises the amino acid sequence of SEQ ID NO: 118.

11. The isolated antibody or fragment of claim 6, wherein:

(i) the HCDR1 comprises the amino acid sequence of SEQ ID NO: 11, the HCDR2 comprises the amino acid sequence of SEQ ID NO: 12, and the HCDR3 comprises the amino acid sequence of SEQ ID NO: 13; the LCDR1 comprises the amino acid sequence of SEQ ID NO: 21, the LCDR2 comprises the amino acid sequence of SEQ ID NO: 22, and the LCDR3 comprises the amino acid sequence of SEQ ID NO: 23;

(ii) the HCDR1 comprises the amino acid sequence of SEQ ID NO: 31, the HCDR2

comprises the amino acid sequence of SEQ ID NO: 32, and the HCDR3 comprises the amino acid sequence of SEQ ID NO: 33; the LCDR1 comprises the amino acid sequence of SEQ ID NO: 41, the LCDR2 comprises the amino acid sequence of SEQ ID NO: 42, and the LCDR3 comprises the amino acid sequence of SEQ ID NO: 43;

(iii) the HCDR1 comprises the amino acid sequence of SEQ ID NO: 51, the HCDR2 comprises the amino acid sequence of SEQ ID NO: 52, and the HCDR3 comprises the amino acid sequence of SEQ ID NO: 53; the LCDR1 comprises the amino acid sequence of SEQ ID NO: 61, the LCDR2 comprises the amino acid sequence of SEQ ID NO: 62, and the LCDR3 comprises the amino acid sequence of SEQ ID NO: 63;

(iv) the HCDR1 comprises the amino acid sequence of SEQ ID NO: 71, the HCDR2 comprises the amino acid sequence of SEQ ID NO: 72, and the HCDR3 comprises the amino acid sequence of SEQ ID NO: 73; the LCDR1 comprises the amino acid sequence of SEQ ID NO: 81, the LCDR2 comprises the amino acid sequence of SEQ ID NO: 82, and the LCDR3 comprises the amino acid sequence of SEQ ID NO: 83;

(v) the HCDR1 comprises the amino acid sequence of SEQ ID NO: 91, the HCDR2 comprises the amino acid sequence of SEQ ID NO: 92, and the HCDR3 comprises the amino acid sequence of SEQ ID NO: 93; the LCDR1 comprises the amino acid sequence of SEQ ID NO: 101, the LCDR2 comprises the amino acid sequence of SEQ ID NO: 102, and the LCDR3 comprises the amino acid sequence of SEQ ID NO: 103; or

(vi) the HCDR1 comprises the amino acid sequence of SEQ ID NO: 111, the HCDR2 comprises the amino acid sequence of SEQ ID NO: 112, and the HCDR3 comprises the amino acid sequence of SEQ ID NO: 113; the LCDR1 comprises the amino acid sequence of SEQ ID NO: 119, the LCDR2 comprises the amino acid sequence of SEQ ID NO: 120, and the LCDR3 comprises the amino acid sequence of SEQ ID NO: 121.

12. The isolated antibody or fragment of claim 6, wherein the HCDR1 comprises the amino acid sequence of SEQ ID NO: 11, the HCDR2 comprises the amino acid sequence of SEQ ID NO: 12, and the HCDR3 comprises the amino acid sequence of SEQ ID NO: 13; and the LCDR1 comprises the amino acid sequence of SEQ ID NO: 21, the LCDR2 comprises the amino acid sequence of SEQ ID NO: 22, and the LCDR3 comprises the amino acid sequence of SEQ ID NO: 23.

13. The isolated antibody or fragment of claim 1, wherein:

(i) the VH comprises the amino acid sequence of SEQ ID NO: 14 and the VL comprises the amino acid sequence of SEQ ID NO: 24;

(ii) the VH comprises the amino acid sequence of SEQ ID NO: 34 and the VL

comprises the amino acid sequence of SEQ ID NO: 44;

(iii) the VH comprises the amino acid sequence of SEQ ID NO: 54 and the VL comprises the amino acid sequence of SEQ ID NO: 64;

(iv) the VH comprises the amino acid sequence of SEQ ID NO: 74 and the VL comprises the amino acid sequence of SEQ ID NO: 84;

(v) the VH comprises the amino acid sequence of SEQ ID NO: 94 and the VL comprises the amino acid sequence of SEQ ID NO: 104; or

(vi) the VH comprises the amino acid sequence of SEQ ID NO: 114 and the VL comprises the amino acid sequence of SEQ ID NO: 122.

14. The isolated antibody or fragment of claim 13, which comprises a heavy chain and a light chain, wherein:

(i) the heavy chain comprises the amino acid sequence of SEQ ID NO: 16 and the light chain comprises the amino acid sequence of SEQ ID NO: 26;

(ii) the heavy chain comprises the amino acid sequence of SEQ ID NO: 36 and the light chain comprises the amino acid sequence of SEQ ID NO: 46;

(iii) the heavy chain comprises the amino acid sequence of SEQ ID NO: 56 and the light chain comprises the amino acid sequence of SEQ ID NO: 66;

(iv) the heavy chain comprises the amino acid sequence of SEQ ID NO: 76 and the light chain comprises the amino acid sequence of SEQ ID NO: 86; or

(v) the heavy chain comprises the amino acid sequence of SEQ ID NO: 96 and the light chain comprises the amino acid sequence of SEQ ID NO: 106.

15. The isolated antibody or fragment of any one of claims 1 to 14, which is a monoclonal antibody, human antibody, humanized antibody, single chain antibody, Fab fragment, Fv fragment, F(ab)2 fragment, or scFv fragment.

16. The isolated antibody or fragment of any one of claims 1 to 15 which is an IgG1 isotype.

17. A pharmaceutical composition comprising the antibody or fragment of any one of claims 1 to 16 and a pharmaceutically acceptable carrier.

18. Use of the antibody or fragment of any one of claims 1 to 16 for the preparation of a medicament for treating a LOX-1-disorder in a subject.

19. The use of claim 18, wherein the subject is afflicted with one or more of intermittent claudication and Rutherford Class II/III Claudication.

20. The use of claim 18, wherein the subject is afflicted with angina.