CLAIMS

1. An antibody or antigen-binding fragment thereof that specifically binds to OX40L, wherein the antibody or antigen-binding fragment thereof comprises three CDRs of a heavy chain variable region set forth as SEQ ID NO: 13 and three CDRs of a light chain variable region set forth as SEQ ID NO: 14.

2. The antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or fragment thereof comprises:

(a) CDR-H1 comprising residues 31-35 of the heavy chain variable region (VH), CDR-H2 comprising residues 50-66 of the VH, and CDR-H3 comprising residues 99-116 of the VH; and

(b) CDR-L1 comprising residues 24-34 of the light chain variable region (VL), CDR-L2 comprising residues 50-56 of the VL, and CDR-L3 comprising residues 89-97 of the VL; and

wherein the CDR numbering is according to Kabat.

3. The antibody or antigen-binding fragment thereof of claim 1 or claim 2, comprising a heavy chain variable region set forth as SEQ ID NO: 13 and a light chain variable region set forth as SEQ ID NO: 14.

4. The antibody or antigen-binding fragment thereof of any one of claims 1-3, comprising:

(a) a heavy chain constant region set forth as SEQ ID NO: 61 and a light chain constant region set forth as SEQ ID NO: 63; or

(b) a heavy chain constant region set forth as SEQ ID NO: 62 and a light chain constant region set forth as SEQ ID NO: 63.

5. The antibody or antigen-binding fragment thereof of any one of claims 1-4, comprising:

(a) a heavy chain set forth as SEQ ID NO: 50 and a light chain set forth as SEQ ID NO: 38; or

(b) a heavy chain set forth as SEQ ID NO: 53 and a light chain set forth as SEQ ID NO: 38.

6. An anti-OX40L antibody or antigen-binding fragment thereof, comprising a heavy chain variable region and a light chain variable region, wherein the heavy chain variable region comprises:

(a) a CDR-H1 comprising the amino acid sequence of SEQ ID NO: 55;

(b) a CDR-H2 comprising the amino acid sequence of SEQ ID NO: 56; and

(c) a CDR-H3 comprising the amino acid sequence of SEQ ID NO: 57; and

wherein the light chain variable region comprises:

(a) a CDR-L1 comprising the amino acid sequence of SEQ ID NO: 58;

(b) a CDR-L2 comprising the amino acid sequence of SEQ ID NO: 59; and

(c) a CDR-L3 comprising the amino acid sequence of SEQ ID NO: 60.

7. The antibody or antigen-binding fragment thereof of claim 6, wherein the antibody or antigen-binding fragment thereof 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: 14.

8. The antibody or antigen-binding fragment thereof of claim 6 or claim 7, wherein the antibody or antigen-binding fragment thereof is selected from the group consisting of Fab, Fab′, $F(ab')_2$, Fab′-SH, Fv, linear antibody, and single-chain antibody fragment.

9. The antibody or antigen-binding fragment thereof of any one of claims 6-8, wherein the antibody or antigen binding fragment thereof is a full-length antibody.

10. The antibody or antigen-binding fragment thereof of any one of claims 6-9, wherein the heavy chain variable region is fused to a heavy chain constant region and the light chain variable region is fused to a light chain constant region.

11. The antibody or antigen-binding fragment thereof of claim 10, wherein the heavy chain constant region is selected from the group consisting of IgA1, IgA2, IgD, IgE, IgG1, IgG2, IgG3, IgG4, and IgM.

12. The antibody or antigen-binding fragment thereof of claim 10, wherein the heavy chain constant region is of the IgG1 isotype.

13. The antibody or antigen-binding fragment thereof of any one of claims 6-12, wherein the antibody or antigen-binding fragment thereof comprises:

(a) a heavy chain constant region comprising the amino acid sequence of SEQ ID NO: 61 and a light chain constant region comprising the amino acid sequence of SEQ ID NO: 63; or

(b) a heavy chain constant region comprising the amino acid sequence of SEQ ID NO: 62 and a light chain constant region comprising the amino acid sequence of SEQ ID NO: 63.

14. The antibody or antigen-binding fragment thereof of any one of claims 6-13, comprising an Fc variant of a parent heavy chain constant region, the Fc variant comprising an amino acid substitution to block antibody binding to FcγRI, FcγRII, or FcγRIIIa.

15. The antibody or antigen-binding fragment thereof of claim 14, wherein the Fc variant comprises an amino acid substitution at a position selected from the group consisting of 234, 235, 252, 254, 256, 428, and 434, and wherein the Fc variant further comprises an amino acid deletion at position 447, and wherein amino acid numbering is according to the EU index.

16. The antibody or antigen-binding fragment thereof of claim 15, wherein the Fc variant is selected from one of:

(a) L234A, L235A, M428L, and N434S, and wherein K447 is deleted; or

(b) L234A, L235A, M252Y, S254T, and T256E, and wherein K447 is deleted, and wherein amino acid numbering is according to the EU index.

17. The antibody or antigen-binding fragment thereof of any one of claims 6-16, wherein the antibody or antigen-binding fragment thereof comprises:

(a) a heavy chain comprising the amino acid sequence of SEQ ID NO: 50 and a light chain r comprising the amino acid sequence of SEQ ID NO: 38; or

(b) a heavy chain comprising the amino acid sequence of SEQ ID NO: 53 and a light chain comprising the amino acid sequence of SEQ ID NO: 38.

18. The antibody or antigen-binding fragment thereof of any one of claims 6-17, wherein the heavy chain constant region further comprises a C-terminal lysine residue.

19. A pharmaceutical composition comprising the antibody or antigen-binding fragment thereof of any one of claims 1-18, and one or more pharmaceutically acceptable carriers, diluents, or excipients.

20. A nucleic acid encoding:

(a) an antibody heavy chain variable region or an antibody light chain variable region of an anti-OX40L antibody or antigen-binding fragment thereof; or

(b) an antibody heavy chain variable region and an antibody light chain variable region of an anti-OX40L antibody or antigen-binding fragment thereof,

wherein the heavy chain variable region comprises the amino acid sequence of SEQ ID NO: 13 and wherein the light chain variable region comprises the amino acid sequence of SEQ ID NO: 14.

21. An expression vector comprising the nucleic acid of claim 20.

22. A host cell comprising the nucleic acid of claim 20 or the expression vector of claim 22.

23. A method for producing an anti-OX40L antibody or antigen-binding fragment thereof comprising:

(a) culturing the host cell of claim 22 under a condition suitable for production of the anti-OX40L antibody or antigen-binding fragment thereof; and

(b) isolating the anti-OX40L antibody or antigen-binding fragment thereof produced by the host cell.

24. An article of manufacture for diagnosing or treating an autoimmune disorder comprising a receptacle comprising the antibody or antigen-binding fragment thereof of any one of claims 1-18 or the pharmaceutical composition of claim 19 and instructional materials for using the same to treat or diagnose the autoimmune disorder.

25. The antibody or antigen-binding fragment thereof of any one of claims 1-18 or the pharmaceutical composition of claim 19 for use as a medicament.

26. Use of the antibody or antigen-binding fragment thereof of any one of claims 1-18 or the pharmaceutical composition of claim 19 in the manufacture of a medicament for treating or preventing an autoimmune disorder in a subject.

27. The use of claim 26, wherein the autoimmune disorder is caused by autoreactive T cells.

28. The use of claim 26 or claim 27, wherein the autoimmune disorder is selected from the group consisting of Alopecia or Alopecia Areata (AA), Ankylosing spondylitis, Autoimmune Lymphoproliferative Syndrome (ALPS), Celiac disease, Crohn's Disease, Graft-versus-host disease, Graves' Disease, Guillain-Barre’ syndrome, Hypersensitivity Vasculitis (HV), Inflammatory bowel disease, Myasthenia Gravis Neutropenia, Rheumatoid arthritis (RA), Sarcoidosis, Systemic lupus erythematosus (SLE), Systemic sclerosis (scleroderma).

29. Use of the antibody or antigen-binding fragment thereof of any one of claims 1-18 or the pharmaceutical composition of claim 19, in the manufacture of a medicament for the prevention or treatment of Atopic Dermatitis.