What is Claimed is:

1. A bispecific antibody comprising

(i) a first light chain variable domain (VL1) and a first heavy chain variable domain (VH1), wherein the VL1/VH1 pair specifically binds to human RANKL, and wherein the VL1 comprises VL CDR1, VL CDR2, and VL CDR3 having the amino acid sequences of SEQ ID NOs:1, 2, and 3, respectively, and wherein the VH1 comprises VH CDR1, VH CDR2, and VH CDR3 having the amino acid sequences of SEQ ID NOs:4, 5, and 6, respectively; and

(ii) a second light chain variable domain (VL2) and a second heavy chain variable domain (VH2), wherein the VL2/VH2 pair specifically binds to human sclerostin; and wherein the VL2 comprises VL CDR1, VL CDR2, and VL CDR3 having the amino acid sequences of SEQ ID NOs:7, 8, and 9, respectively, and wherein the VH2 comprises VH CDR1, VH CDR2, and VH CDR3 having the amino acid sequences of SEQ ID NOs:10, 11, and 12, respectively.

2. The bispecific antibody of claim 1, wherein VL1, VH1, VL2, and VH2 have the amino acid sequences of SEQ ID NOs:13, 14, 15, and 16, respectively.

3. The bispecific antibody of claim 1 or 2, comprising

(a) (1) a first peptide chain (C1) comprising, from N-terminus to C-terminus, VL1, and a light chain constant region (CL); (2) a second peptide chain (C2) comprising, from N-terminus to C-terminus, VH1, a heavy chain constant domain 1 (CH1), and a Knob-Fc region; and (3) a third peptide chain (C3) comprising, from N-terminus to C-terminus, a single chain variable fragment (scFv) comprising VL2 and VH2, a linker, and a Hole-Fc region; or

(b) (1) a first peptide chain (C1) comprising, from N-terminus to C-terminus, VL1, and a light chain constant region (CL); (2) a second peptide chain (C2) comprising, from N-terminus to C-terminus, VH1, a heavy chain constant domain 1 (CH1), and a Hole-Fc region; and (3) a third peptide chain (C3) comprising, from N-terminus to C-terminus, a single chain variable fragment (scFv) comprising VL2 and VH2, a linker, and a Knob-Fc region; or

(c) (1) a first peptide chain (C1) comprising, from N-terminus to C-terminus, VL2, and a light chain constant region (CL); (2) a second peptide chain (C2) comprising, from N-terminus to C-terminus, VH2, a heavy chain constant domain 1 (CH1), and a Knob-Fc region; and (3) a third peptide chain (C3) comprising, from N-terminus to C-terminus, a single chain variable fragment (scFv) comprising VL1 and VH1, a linker, and a Hole-Fc region; or

(d) (1) a first peptide chain (C1) comprising, from N-terminus to C-terminus, VL2, and a light chain constant region (CL); (2) a second peptide chain (C2) comprising, from N-terminus to C-terminus, VH2, a heavy chain constant domain 1 (CH1), and a Hole-Fc region; and (3) a third peptide chain (C3) comprising, from N-terminus to C-terminus, a single chain variable

fragment (scFv) comprising VL1 and VH1, a linker and a Knob-Fc region.

4. The bispecific antibody of claim 3, wherein the scFv comprises, from N-terminus to C-terminus, VL2, a second linker, and VH2; or

wherein the scFv comprises, from N-terminus to C-terminus, VH2, a second linker, and VL2; or

wherein the scFv comprises, from N-terminus to C-terminus, VL1, a second linker, and VH1; or

wherein the scFv comprises, from N-terminus to C-terminus, VH1, a second linker, and VL1.

5. The bispecific antibody of claim 3 or 4, wherein the Knob-Fc region is a human IgG2 Fc region variant having up to ten amino acids substitutions, including a T366W substitution; and the Hole-Fc region is a human IgG2 Fc region variant having up to ten amino acids substitutions, including T366S, L368A, Y407V substitutions;

preferably, the Knob-Fc region further comprises S354C substitution, and the Hole-Fc region further comprises Y349C substitution; or the Knob-Fc region further comprises Y349C substitution, and the Hole-Fc region further comprises S354C substitution.

6. The bispecific antibody of claim 5, wherein

(i) the CL region is kappa CL (Cκ; SEQ ID NO:19) or lambda CL (Cλ; SEQ ID NO:20), or a variant thereof having up to ten amino acids substitutions;

(ii) the CH1 domain is human IgG2 CH1 domain (SEQ ID NO:36) or a variant thereof having up to ten amino acids substitutions; and/or

(iii) the Knob-Fc region and the Hole-Fc region have the amino acid sequences of (1) SEQ ID NOs:29 and 32, respectively, (2) SEQ ID NOs:30 and 33, respectively, or (3) SEQ ID NOs:31 and 34, respectively, or a variant thereof having up to ten amino acids substitutions;

preferably, the CL region, CH1 domain, the Knob-Fc region and the Hole-Fc region have the amino acid sequences of (1) SEQ ID NOs:19, 36, 29 and 32, respectively, (2) SEQ ID NOs:19, 36, 30 and 33, respectively, or (3) SEQ ID NOs:19, 36, 31 and 34, respectively.

7. The bispecific antibody of any one of claims 3 to 6, wherein C1, C2, and C3 have amino acid sequences of (1) SEQ ID NOs:51, 53, and 54, respectively, (2) SEQ ID NOs:51, 55, and 56, respectively, (3) SEQ ID NOs:51, 57, and 58, respectively; or (4) SEQ ID NOs:51, 59 and 60, respectively.

8. A bispecific antibody of claim 1 or 2, comprising:

(A) (1) a first peptide chain (C1) comprising, from N-terminus to C-terminus, VL1 and a light chain constant region (CL); and (2) a second peptide chain (C2) comprising, from N-terminus to C-terminus, VH1, a heavy chain constant region (CH), a linker, and a single chain variable fragment (scFv) comprising VL2 and VH2; or

(B) (1) a first peptide chain (C1) comprising, from N-terminus to C-terminus, VL2 and a light chain constant region (CL); and (2) a second peptide chain (C2) comprising, from N-terminus to C-terminus, VH2, a heavy chain constant region (CH), a linker, and a single chain variable fragment (scFv) comprising VL1 and VH1.

9. The bispecific antibody of claim 8, wherein the scFv comprises, from N-terminus to C-terminus, VL2, a second linker, and VH2; or

wherein the scFv comprises, from N-terminus to C-terminus, VH2, a second linker, and VL2; or

wherein the scFv comprises, from N-terminus to C-terminus, VL1, a second linker, and VH1; or

wherein the scFv comprises, from N-terminus to C-terminus, VH1, a second linker, and VL1.

10. The bispecific antibody of claim 8 or 9, wherein

(1) the CL region is kappa CL (Cκ; SEQ ID NO:19) or lambda CL (Cλ; SEQ ID NO:20), or a variant thereof having up to ten amino acids substitutions; or

(2) the CH region is human IgG1 CH region (SEQ ID NO:21), IgG2 CH region (SEQ ID NO:22), IgG3 CH region (SEQ ID NO:23), or IgG4 CH region (SEQ ID NO:24), or a variant thereof having up to ten amino acids substitutions; or both (1) and (2);

preferably, (1) the CL region is kappa CL (Cκ; SEQ ID NO:19); and (2) the CH region is human IgG2 CH region (SEQ ID NO:22).

11. The bispecific antibody of any one of claims 8 to 10, wherein the C1 and C2 have amino acid sequences of (1) SEQ ID NOs:51 and 61, respectively, or (2) SEQ ID NOs:51 and 62, respectively; or

wherein the C1 and C2 have amino acid sequences of (1) SEQ ID NOs:52 and 63, respectively, or (2) SEQ ID NOs:52 and 64, respectively.

12. A pharmaceutical composition comprising a therapeutically effective amount of the bispecific antibody of any one of claims 1 to 11 and a pharmaceutically acceptable carrier.

13. A polynucleotide encoding a peptide chain of the bispecific antibody of any one of claims 3 to 11.

14. A vector comprising the polynucleotide of claim 13.

15. A cell comprising the polynucleotide of claim 13, or the vector of claim 14.

16. A method of making a bispecific antibody that specifically binds to human RANKL and human sclerostin comprising culturing the cell of claim 15 under conditions that allow expression of the bispecific antibody.

17. Use of the bispecific antibody of any one of claims 1 to 11 for the preparation of a medicament for preventing or treating osteoporosis in a subject in need thereof.

18. The use of claim 17, wherein the subject has primary osteoporosis or secondary osteoporosis;

preferably, the subject has postmenopausal osteoporosis (Type I), or the subject has senile osteoporosis (Type II), or the osteoporosis is secondary to an endocrine or metabolic cause, a collagen or genetic disorder, a medication cause, or a nutritional cause.

19. The use of claim 17 or 18, wherein the subject is a human.