Claims

1. An isolated bispecific antibody that specifically binds to CD3 and a tumor antigen, and comprises:

1) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3, comprising:

CDR1 with an amino acid sequence that is selected from the group: SEQ ID NO: 1 or SEQ ID NO: 2;

CDR2 with the amino acid sequence of SEQ ID NO: 3; and

CDR3 with an amino acid sequence that is selected from the group: SEQ ID NO: 4 or SEQ ID NO: 5; and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 6;

CDR2 with the amino acid sequence of SEQ ID NO: 7; and

CDR3 with an amino acid sequence that is selected from the group: SEQ ID NO: 8 or SEQ ID NO: 9; and

2) a second antigen-binding fragment that specifically binds to a tumor antigen.

2. The isolated bispecific antibody according to claim 1, comprising

(i) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 2,

CDR2 with the amino acid sequence of SEQ ID NO: 3 and

CDR3 with the amino acid sequence of SEQ ID NO: 4; and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 6,

CDR2 with the amino acid sequence of SEQ ID NO: 7 and

CDR3 with the amino acid sequence of SEQ ID NO: 8; or

(ii) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 1,

CDR2 with the amino acid sequence of SEQ ID NO: 3 and

CDR3 with the amino acid sequence of SEQ ID NO: 4; and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 6,

CDR2 with the amino acid sequence of SEQ ID NO: 7 and

CDR3 with the amino acid sequence of SEQ ID NO: 8; or

(iii) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 2,

CDR2 with the amino acid sequence of SEQ ID NO: 3 and

CDR3 with the amino acid sequence of SEQ ID NO: 5; and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 6,

CDR2 with the amino acid sequence of SEQ ID NO: 7 and

CDR3 with the amino acid sequence of SEQ ID NO: 9; or

(iv) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 1,

CDR2 with the amino acid sequence of SEQ ID NO: 3 and

CDR3 with the amino acid sequence of SEQ ID NO: 5; and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 6,

CDR2 with the amino acid sequence of SEQ ID NO: 7 and

CDR3 with the amino acid sequence of SEQ ID NO: 9.

3. The isolated bispecific antibody according to claim 1, wherein:

(a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises an amino acid sequence that is selected from the group: SEQ ID NO: 10, SEQ ID NO: 11, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 14, SEQ ID NO: 15 or SEQ ID NO: 156; and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises an amino acid sequence that is selected from the group: SEQ ID NO: 16, SEQ ID NO: 17, SEQ ID NO: 18, SEQ ID NO: 19, SEQ ID NO: 20, SEQ ID NO: 21, SEQ ID NO: 22, SEQ ID NO: 23 or SEQ ID NO: 157.

4. The isolated bispecific antibody according to claim 3, wherein:

(i) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 10 and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 16; or

(ii) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 11 and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 16; or

(iii) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 10 and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 17; or

(iv) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 10 and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 18; or

(v) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 10 and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 19; or

(vi) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 11 and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 19; or

(vii) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 12 and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 18; or

(viii) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 13 and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 20; or

(ix) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 14 and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 20; or

(x) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 13 and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 21; or

(xi) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 13 and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 22; or

(xii) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 13 and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 23; or

(xiii) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 14 and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 23; or

(xiv) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 15 and

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 22; or

(xv) (a) the light chain variable domain of the first antigen-binding fragment, designed in CrossMab format, that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 156 and

(b) the heavy chain variable domain of the first antigen-binding fragment, designed in CrossMab format, that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 157.

5. The isolated bispecific antibody according to any one of claims 1-4, wherein the antibody that specifically binds to CD3 and a tumor antigen is a full-length IgG antibody.

6. The isolated bispecific antibody according to claim 5, wherein the full-length IgG antibody is of human IgG1, IgG2, IgG3 or IgG4 isotype.

7. The isolated bispecific antibody according to claim 1, wherein

a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises an amino acid sequence that is selected from the group: SEQ ID NO: 24, SEQ ID NO: 25, SEQ ID NO: 26, SEQ ID NO: 27, SEQ ID NO: 28, SEQ ID NO: 29, SEQ ID NO: 158, SEQ ID NO: 160 or SEQ ID NO: 162; and

b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises an amino acid sequence that is selected from the group: SEQ ID NO: 30, SEQ ID NO: 31, SEQ ID NO: 32, SEQ ID NO: 33, SEQ ID NO: 34, SEQ ID NO: 35, SEQ ID NO: 36, SEQ ID NO: 37, SEQ ID NO: 38, SEQ ID NO: 159, SEQ ID NO: 161 or SEQ ID NO: 163.

8. The isolated bispecific antibody according to claim 7, wherein

(i) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 24 and

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 30; or

(ii) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 25 and

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 30; or

(iii) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 24 and

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3, of the first antigen-binding fragment that specifically binds to CD3, comprises the amino acid sequence of SEQ ID NO: 31; or

(iv) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 24 and

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 32; or

(v) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 24 and

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 33; or

(vi) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 25 and

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 33; or

(vii) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 26 and

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 32; or

(viii) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 27 and

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 34; or

(ix) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 28 and

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 34; or

(x) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 27 and

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 35; or

(xi) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 27 and

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 36; or

(xii) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 27 and

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 37; or

(xiii) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 28 and

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 37; or

(xiv) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 29 and

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 36; or

(xv) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 25 and

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 38; or

(xvi) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 158 and

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 159; or

(xvii) (a) the light chain of the first antigen-binding fragment, designed in CrossMab format, that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 160 and

(b) the heavy chain of the first antigen-binding fragment, designed in CrossMab format, that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 161; or

(xviii) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 162 and

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 163.

9. The isolated bispecific antibody according to claim 1, wherein the second antigen-binding fragment that specifically binds to a tumor antigen is selected from the group: GUCY2C, AXL, GD2, CD19, EpCAM, EGFR, CD20, CEA, HER2/neu, PSMA, BCMA, MUC17, CD38, FLT3, ENPP3, TPBG, FAP, CD70, Cadherin-19, Mesothelin, CD33, ROR1, IL-3Rα, Cadherin-17, P-cadherin, MUC1, B7-H6, DLL3, B7-H3, CD28, CD155, IRTA2, GPRC5D, RNF43, IL-1RAP, Globo H, Glypican 3, CLDN18, TPBG, LYPD1, PD-L1, GPNMB, NY-ESO-1, MAGE-A4, TACSTD-2, DR5, CD8, TMEFF2, PRLR, CD22, HLA-G, Robo1, EphA2, Prominin-1, HMW-MAA, A33, TAG-72, HER3, IL-23R, CD2, MIF, PD-1, Epha10, GCC, ALP, LFL2, MAGE-A4, STEAP2, CA125, TYRP1, 4-1BB, FRA, CD44v6, Robo4, TIM-3, CLEC12A, B7-H4, FCRL5, SSTR2, c-Kit, MOSPD2, PSA or CD26.

10. The isolated bispecific antibody according to claim 1, wherein the tumor antigen is BCMA, and wherein:

a second antigen-binding fragment that specifically binds to the tumor antigen BCMA and comprises:

(a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with an amino acid sequence that is selected from the group: SEQ ID NO: 49, SEQ ID NO: 50, SEQ ID NO: 51, SEQ ID NO: 52, SEQ ID NO: 53, SEQ ID NO: 54, SEQ ID NO: 55, SEQ ID NO: 56 or SEQ ID NO: 122;

CDR2 with an amino acid sequence that is selected from the group: SEQ ID NO: 57, SEQ ID NO: 58, SEQ ID NO: 59, SEQ ID NO: 60, SEQ ID NO: 61, SEQ ID NO: 62, SEQ ID NO: 63, SEQ ID NO: 64, SEQ ID NO: 65 or SEQ ID NO: 123; and

CDR3 with an amino acid sequence that is selected from the group: SEQ ID NO: 66, SEQ ID NO: 67, SEQ ID NO: 68, SEQ ID NO: 69, SEQ ID NO: 70, SEQ ID NO: 71, SEQ ID NO: 72, SEQ ID NO:73, SEQ ID NO: 74, SEQ ID NO: 75, SEQ ID NO: 76 or SEQ ID NO: 124; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with an amino acid sequence that is selected from the group: SEQ ID NO: 77, SEQ ID NO: 78, SEQ ID NO: 79 or SEQ ID NO: 125;

CDR2 with an amino acid sequence that is selected from the group: SEQ ID NO: 80, SEQ ID NO: 81, SEQ ID NO: 82, SEQ ID NO: 126, SEQ ID NO: 127, SEQ ID NO: 128 or SEQ ID NO: 129; and

CDR3 with an amino acid sequence that is selected from the group: SEQ ID NO: 83 or SEQ ID NO: 130.

11. The isolated bispecific antibody according to claim 10, comprising:

(i) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 49,

CDR2 with the amino acid sequence of SEQ ID NO: 57 and

CDR3 with the amino acid sequence of SEQ ID NO: 66; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 77,

CDR2 with the amino acid sequence of SEQ ID NO: 80 and

CDR3 with the amino acid sequence of SEQ ID NO: 83; or

(ii) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 50,

CDR2 with the amino acid sequence of SEQ ID NO: 58 and

CDR3 with the amino acid sequence of SEQ ID NO: 67; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 78,

CDR2 with the amino acid sequence of SEQ ID NO: 81 and

CDR3 with the amino acid sequence of SEQ ID NO: 83; or

(iii) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 51,

CDR2 with the amino acid sequence of SEQ ID NO: 59 and

CDR3 with the amino acid sequence of SEQ ID NO: 68; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 79,

CDR2 with the amino acid sequence of SEQ ID NO: 80 and

CDR3 with the amino acid sequence of SEQ ID NO: 83; or

(iv) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 52,

CDR2 with the amino acid sequence of SEQ ID NO: 60 and

CDR3 with the amino acid sequence of SEQ ID NO: 69; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 78,

CDR2 with the amino acid sequence of SEQ ID NO: 80 and

CDR3 with the amino acid sequence of SEQ ID NO: 83; or

(v) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 53,

CDR2 with the amino acid sequence of SEQ ID NO: 61 and

CDR3 with the amino acid sequence of SEQ ID NO: 70; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 78,

CDR2 with the amino acid sequence of SEQ ID NO: 81 and

CDR3 with the amino acid sequence of SEQ ID NO: 83; or

(vi) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 53,

CDR2 with the amino acid sequence of SEQ ID NO: 61 and

CDR3 with the amino acid sequence of SEQ ID NO: 71; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 78,

CDR2 with the amino acid sequence of SEQ ID NO: 82 and

CDR3 with the amino acid sequence of SEQ ID NO: 83; or

(vii) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 54,

CDR2 with the amino acid sequence of SEQ ID NO: 63 and

CDR3 with the amino acid sequence of SEQ ID NO: 73; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 78,

CDR2 with the amino acid sequence of SEQ ID NO: 81 and

CDR3 with the amino acid sequence of SEQ ID NO: 83; or

(viii) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 53,

CDR2 with the amino acid sequence of SEQ ID NO: 61 and

CDR3 with the amino acid sequence of SEQ ID NO: 71; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 78,

CDR2 with the amino acid sequence of SEQ ID NO: 81 and

CDR3 with the amino acid sequence of SEQ ID NO: 83; or

(ix) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 55,

CDR2 with the amino acid sequence of SEQ ID NO: 64 and

CDR3 with the amino acid sequence of SEQ ID NO: 74; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 78,

CDR2 with the amino acid sequence of SEQ ID NO: 80 and

CDR3 with the amino acid sequence of SEQ ID NO: 83; or

(x) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 49,

CDR2 with the amino acid sequence of SEQ ID NO: 65 and

CDR3 with the amino acid sequence of SEQ ID NO: 75; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 78,

CDR2 with the amino acid sequence of SEQ ID NO: 80 and

CDR3 with the amino acid sequence of SEQ ID NO: 83; or

(xi) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 56,

CDR2 with the amino acid sequence of SEQ ID NO: 58 and

CDR3 with the amino acid sequence of SEQ ID NO: 76; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 78,

CDR2 with the amino acid sequence of SEQ ID NO: 81 and

CDR3 with the amino acid sequence of SEQ ID NO: 83; or

(xii) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 51,

CDR2 with the amino acid sequence of SEQ ID NO: 62 and

CDR3 with the amino acid sequence of SEQ ID NO: 72; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 78,

CDR2 with the amino acid sequence of SEQ ID NO: 81 and

CDR3 with the amino acid sequence of SEQ ID NO: 83; or

(xiii) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 122,

CDR2 with the amino acid sequence of SEQ ID NO: 123 and

CDR3 with the amino acid sequence of SEQ ID NO: 124; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 125,

CDR2 with the amino acid sequence of SEQ ID NO: 126 and

CDR3 with the amino acid sequence of SEQ ID NO: 130; or

(xiv) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 122,

CDR2 with the amino acid sequence of SEQ ID NO: 123 and

CDR3 with the amino acid sequence of SEQ ID NO: 124; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 125,

CDR2 with the amino acid sequence of SEQ ID NO: 127 and

CDR3 with the amino acid sequence of SEQ ID NO: 130; or

(xv) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 122,

CDR2 with the amino acid sequence of SEQ ID NO: 123 and

CDR3 with the amino acid sequence of SEQ ID NO: 124; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 125,

CDR2 with the amino acid sequence of SEQ ID NO: 128 and

CDR3 with the amino acid sequence of SEQ ID NO: 130; or

(xvi) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 122,

CDR2 with the amino acid sequence of SEQ ID NO: 123 and

CDR3 with the amino acid sequence of SEQ ID NO: 124; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 125,

CDR2 with the amino acid sequence of SEQ ID NO: 129 and

CDR3 with the amino acid sequence of SEQ ID NO: 130.

12. The isolated bispecific antibody according to claim 10, wherein

(a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises an amino acid sequence that is selected from the group: SEQ ID NO: 84, SEQ ID NO: 85, SEQ ID NO: 86, SEQ ID NO: 87, SEQ ID NO: 88, SEQ ID NO: 89, SEQ ID NO: 90, SEQ ID NO: 91, SEQ ID NO: 92, SEQ ID NO: 93, SEQ ID NO: 94 or SEQ ID NO: 131;

and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises an amino acid sequence that is selected from the group: SEQ ID NO: 95, SEQ ID NO: 96, SEQ ID NO: 97, SEQ ID NO: 98, SEQ ID NO: 99, SEQ ID NO: 100, SEQ ID NO: 101, SEQ ID NO: 102, SEQ ID NO: 132, SEQ ID NO: 133, SEQ ID NO: 134, SEQ ID NO: 135, SEQ ID NO: 136, SEQ ID NO: 137, SEQ ID NO: 138, SEQ ID NO: 139, SEQ ID NO: 140, SEQ ID NO: 141 or SEQ ID NO: 142.

13. The isolated bispecific antibody according to claim 12, wherein

(i) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 84; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 95; or

(ii) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 85; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 96; or

(iii) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 86; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 97; or

(iv) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 87; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 98; or

(v) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 88;

and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 99; or

(vi) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 89; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 100; or

(vii) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 91; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 99; or

(viii) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 89; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 99; or

(ix) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 92; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 101; or

(x) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 93; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 102; or

(xi) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 94; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 99; or

(xii) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 90; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 99; or

(xiii) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 132; or

(xiv) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 133; or

(xv) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 134; or

(xvi) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 135; or

(xvii) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO:136; or

(xviii) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO:137; or

(xix) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 138; or

(xx) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 139; or

(xxi) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 140; or

(xxii) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 141; or

(xxiii) (a) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(b) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 142.

14. The isolated bispecific antibody according to claim 10, wherein

(a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises an amino acid sequence that is selected from the group: SEQ ID NO: 103, SEQ ID NO:

104, SEQ ID NO: 105, SEQ ID NO: 106, SEQ ID NO: 107, SEQ ID NO: 108, SEQ ID NO: 109, SEQ ID NO: 110, SEQ ID NO: 111, SEQ ID NO: 112, SEQ ID NO: 113, SEQ ID NO: 143 or SEQ ID NO: 144; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises an amino acid sequence that is selected from the group: SEQ ID NO: 114, SEQ ID NO: 115, SEQ ID NO: 116, SEQ ID NO: 117, SEQ ID NO: 118, SEQ ID NO: 119, SEQ ID NO: 120, SEQ ID NO: 121, SEQ ID NO: 145, SEQ ID NO: 146, SEQ ID NO: 147, SEQ ID NO: 148, SEQ ID NO: 149, SEQ ID NO: 150, SEQ ID NO: 151, SEQ ID NO: 152, SEQ ID NO: 153, SEQ ID NO: 154 or SEQ ID NO: 155.

15. The isolated bispecific antibody according to claim 14, wherein

(i) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 103; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 114; or

(ii) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 104; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 115; or

(iii) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 105; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 116; or

(iv) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 106; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 117; or

(v) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 107; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 118; or

(vi) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 108; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 119; or

(vii) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 110; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 118; or

(viii) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 108; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 118; or

(ix) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 111; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 120; or

(x) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 112; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 121; or

(xi) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 113; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 118; or

(xii) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 109; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 118; or

(xiii) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 145; or

(xiv) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 146; or

(xv) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 147; or

(xvi) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 148; or

(xvii) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 149; or

(xviii) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 150; or

(xix) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 151; or

(xx) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 152; or

(xxi) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 153; or

(xxii) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 154; or

(xxiii) (a) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 144; and

(b) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 155.

16. The isolated bispecific antibody according to claim 10, comprising:

(i) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 2,

CDR2 with the amino acid sequence of SEQ ID NO: 3 and

CDR3 with the amino acid sequence of SEQ ID NO: 4;

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 6,

CDR2 with the amino acid sequence of SEQ ID NO: 7 and

CDR3 with the amino acid sequence of SEQ ID NO: 8;

(c) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 122,

CDR2 with the amino acid sequence of SEQ ID NO: 123 and

CDR3 with the amino acid sequence of SEQ ID NO: 124; and

(d) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 125,

CDR2 with the amino acid sequence of SEQ ID NO: 126 and

CDR3 with the amino acid sequence of SEQ ID NO: 130; or

(ii) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 2,

CDR2 with the amino acid sequence of SEQ ID NO: 3 and

CDR3 with the amino acid sequence of SEQ ID NO: 4;

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 6,

CDR2 with the amino acid sequence of SEQ ID NO: 7 and

CDR3 with the amino acid sequence of SEQ ID NO: 8;

(c) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 122,

CDR2 with the amino acid sequence of SEQ ID NO: 123 and

CDR3 with the amino acid sequence of SEQ ID NO: 124; and

(d) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 125,

CDR2 with the amino acid sequence of SEQ ID NO: 127 and

CDR3 with the amino acid sequence of SEQ ID NO: 130; or

(iii) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 2,

CDR2 with the amino acid sequence of SEQ ID NO: 3 and

CDR3 with the amino acid sequence of SEQ ID NO: 4;

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 6,

CDR2 with the amino acid sequence of SEQ ID NO: 7 and

CDR3 with the amino acid sequence of SEQ ID NO: 8;

(c) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 122,

CDR2 with the amino acid sequence of SEQ ID NO: 123 and

CDR3 with the amino acid sequence of SEQ ID NO: 124; and

(d) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 125,

CDR2 with the amino acid sequence of SEQ ID NO: 128 and

CDR3 with the amino acid sequence of SEQ ID NO: 130; or

(iv) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 2,

CDR2 with the amino acid sequence of SEQ ID NO: 3 and

CDR3 with the amino acid sequence of SEQ ID NO: 4;

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 6,

CDR2 with the amino acid sequence of SEQ ID NO: 7 and

CDR3 with the amino acid sequence of SEQ ID NO: 8;

(c) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 122,

CDR2 with the amino acid sequence of SEQ ID NO: 123 and

CDR3 with the amino acid sequence of SEQ ID NO: 124; and

(d) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 125,

CDR2 with the amino acid sequence of SEQ ID NO: 129 and

CDR3 with the amino acid sequence of SEQ ID NO: 130; or

(v) (a) the light chain variable domain of the first antigen-binding fragment, designed in CrossMAb format, that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 6,

CDR2 with the amino acid sequence of SEQ ID NO: 7 and

CDR3 with the amino acid sequence of SEQ ID NO: 8;

(b) the heavy chain variable domain of the first antigen-binding fragment, designed in CrossMAb format, that specifically binds to CD3, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 2,

CDR2 with the amino acid sequence of SEQ ID NO: 3 and

CDR3 with the amino acid sequence of SEQ ID NO: 4;

(c) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 122,

CDR2 with the amino acid sequence of SEQ ID NO: 123 and

CDR3 with the amino acid sequence of SEQ ID NO: 124; and

(d) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA, comprising:

CDR1 with the amino acid sequence of SEQ ID NO: 125,

CDR2 with the amino acid sequence of SEQ ID NO: 126 and

CDR3 with the amino acid sequence of SEQ ID NO: 130.

17. The isolated bispecific antibody according to claim 10, comprising:

(i) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 11;

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 19;

(c) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(d) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 132; or

(ii) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 11;

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 19;

(c) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(d) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 133; or

(iii) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 11;

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 19;

(c) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(d) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 134; or

(iv) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 11;

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 19;

(c) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(d) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 135; or

(v) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 11;

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 19;

(c) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(d) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO:136; or

(vi) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 11;

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 19;

(c) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(d) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO:137; or

(vii) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 11;

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 19;

(c) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(d) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 138; or

(viii) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 11;

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 19;

(c) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(d) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 139; or

(ix) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 11;

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 19;

(c) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(d) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 140; or

(x) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 11;

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 19;

(c) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(d) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 141; or

(xi) (a) the light chain variable domain of the first antigen-binding fragment, designed in CrossMAb format, that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 156;

(b) the heavy chain variable domain of the first antigen-binding fragment, designed in CrossMAb format, that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 157;

(c) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(d) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 142; or

(xii) (a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 11;

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 19;

(c) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(d) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 142.

18. The isolated bispecific antibody according to claim 10, comprising:

(i) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 158;

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 159;

(c) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(d) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 145; or

(ii) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 158;

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 159;

(c) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(d) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 146; or

(iii) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 158;

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 159;

(c) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(d) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 147; or

(iv) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 158;

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 159;

(c) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(d) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 148; or

(v) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 158;

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 159;

(c) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(d) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 149; or

(vi) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 158;

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 159;

(c) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(d) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 150; or

(vii) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 158;

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 159;

(c) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(d) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 151; or

(viii) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 158;

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 159;

(c) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(d) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 152; or

(ix) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 158;

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 159;

(c) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(d) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 153; or

(x) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 158;

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 159;

(c) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 143; and

(d) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 154; or

(xi) (a) the light chain of the first antigen-binding fragment, designed in CrossMab format, that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 160;

(b) the heavy chain of the first antigen-binding fragment, designed in CrossMab format, that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 161;

(c) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 144; and

(d) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 155; or

(xii) (a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 162;

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 163;

(c) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 144; and

(d) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 155.

19. An isolated bispecific antibody that specifically binds to CD3 and the tumor antigen BCMA, and comprises:

1) a first antigen-binding fragment, designed in CrossMAb format, that specifically binds to CD3, and comprises:

(a) a light chain variable domain comprising:

(i) CDR1 with the amino acid sequence of SEQ ID NO: 6;

(ii) CDR2 with the amino acid sequence of SEQ ID NO: 7, and

(iii) CDR3 with the amino acid sequence of SEQ ID NO: 8; and

(b) a heavy chain variable domain comprising:

(i) CDR1 with the amino acid sequence of SEQ ID NO: 2,

(ii) CDR2 with the amino acid sequence of SEQ ID NO: 3, and

(iii) CDR3 with the amino acid sequence of SEQ ID NO: 4; and

2) a second antigen-binding fragment that specifically binds to the tumor antigen BCMA and comprises:

(a) a light chain variable domain comprising:

(i) CDR1 with the amino acid sequence of SEQ ID NO: 122;

(ii) CDR2 with the amino acid sequence of SEQ ID NO: 123; and

(iii) CDR3 with the amino acid sequence of SEQ ID NO: 124; and

(b) a heavy chain variable domain comprising:

(i) CDR1 with the amino acid sequence of SEQ ID NO: 125;

i) CDR1 with the amino acid sequence of SEQ ID NO: 126; and

(iii) CDR3 with the amino acid sequence of SEQ ID NO: 130.

20. The isolated bispecific antibody according to claim 19, wherein

(a) the light chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 156;

(b) the heavy chain variable domain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 157;

(c) the light chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 131; and

(d) the heavy chain variable domain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 142.

21. The isolated bispecific antibody according to any one of claims 19-20, wherein the antibody that specifically binds to CD3 and the tumor antigen BCMA is a full-length IgG antibody.

22. The isolated bispecific antibody according to claim 21, wherein the full-length IgG antibody is of human IgG1, IgG2, IgG3 or IgG4 isotype.

23. The isolated bispecific antibody according to claim 19, wherein

(a) the light chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 160;

(b) the heavy chain of the first antigen-binding fragment that specifically binds to CD3 comprises the amino acid sequence of SEQ ID NO: 161;

(c) the light chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 144; and

(d) the heavy chain of the second antigen-binding fragment that specifically binds to BCMA comprises the amino acid sequence of SEQ ID NO: 155.

24. An isolated nucleic acid that encodes the bispecific antibody according to any one of claims 1-23.

25. An expression vector comprising the nucleic acid according to claim 24.

26. A method for producing a host cell to produce the bispecific antibody according to any one of claims 1-23, comprising transformation of the cell by the vector according to claim 25.

27. A host cell for producing the antibody or antigen-binding fragment thereof according to any one of claims 1-23, comprising the nucleic acid according to claim 24.

28. A method for producing the bispecific antibody according to any one of claims 1-23, comprising culturing the host cell according to claim 27 in a culture medium under conditions sufficient to produce said bispecific antibody, followed by isolating and purifying the resulting antibody.

29. A pharmaceutical composition comprising the bispecific antibody according to any one of claims 1-23 in a therapeutically effective amount in combination with one or more pharmaceutically acceptable

30. A pharmaceutical composition comprising the bispecific antibody according to any one of claims 1-23 and at least one other therapeutically active compound.

31. The pharmaceutical composition according to claim 30, wherein the other therapeutically active compound is an antibody, a small molecule, a hormone therapy agent or combination thereof.