

- (C) a CDR_H3 Domain comprising the amino acid sequence of **SEQ ID NO:59**;
- (D) a CDR_L1 Domain comprising the amino acid sequence of **SEQ ID NO:60**;
- (E) a CDR_L2 Domain comprising an amino acid sequence selected from the group consisting of **SEQ ID NO:113** and **SEQ ID NO:115**; and
- (F) a CDR_L3 Domain comprising the amino acid sequence of **SEQ ID NO:62**.

[0020a] In one aspect, the present disclosure refers to a Disease Antigen x CD3 (**DA x CD3**) **Binding Molecule** comprising a CD3-Binding Domain capable of binding an epitope of CD3 and a Disease Antigen-Binding Domain capable of binding an epitope of a Disease Antigen, wherein said Disease Antigen is B7-H3, CEACAM5/CEACAM6, EGFR, EphA2, gpA33, HER2/neu, VEGF, 5T4, IL13Ra2, CD19, or CD123, and wherein the CD3-Binding Domain comprises:

- (I)
 - (A) a CDR_H1 Domain comprising an amino acid sequence selected from the group consisting of **SEQ ID NO:99**, **SEQ ID NO:91**, **SEQ ID NO:93**, **SEQ ID NO:95** and **SEQ ID NO:97**;
 - (B) a CDR_H2 Domain comprising the amino acid sequence of **SEQ ID NO:58**;
 - (C) a CDR_H3 Domain comprising the amino acid sequence of **SEQ ID NO:59**;
 - (D) a CDR_L1 Domain comprising the amino acid sequence of **SEQ ID NO:60**;
 - (E) a CDR_L2 Domain comprising the amino acid sequence of **SEQ ID NO:61**; and
 - (F) a CDR_L3 Domain comprising the amino acid sequence of **SEQ ID NO:62**; or
- (II)
 - (A) a CDR_H1 Domain comprising the amino acid sequence of **SEQ ID NO:57**;
 - (B) a CDR_H2 Domain comprising the amino acid sequence of **SEQ ID NO:58**;

[0035] The disclosure additionally concerns a method for the treatment of a disease, comprising administering to a subject in need thereof a therapeutically effective amount of any of the above-described **DA x CD3 Binding Molecules** or the above-described pharmaceutical composition.

[0036] The disclosure additionally concerns the example of such method, wherein the disease is cancer. Including examples, wherein the cancer is selected from the group consisting of adrenal cancer, bladder cancer, breast cancer, colorectal cancer, gastric cancer, glioblastoma, kidney cancer, non-small-cell lung cancer, hematological cancer, multiple myeloma, melanoma, ovarian cancer, pancreatic cancer, prostate cancer, skin cancer, renal cell carcinoma, testicular cancer, and uterine cancer.

[0037] The disclosure additionally concerns the example of such method, wherein the disease is a pathogen-associated disease; including examples, wherein the Pathogen-Associated Antigen is selected from the group consisting of the Pathogen-Associated Antigens: Herpes Simplex Virus infected cell protein (ICP)47, Herpes Simplex Virus gD, Epstein-Barr Virus LMP-1, Epstein-Barr Virus LMP-2A, Epstein-Barr Virus LMP-2B, Human Immunodeficiency Virus gp160, Human Immunodeficiency Virus gp120, Human Immunodeficiency Virus gp41, Human Papillomavirus E6, Human Papillomavirus E7, human T-cell leukemia virus gp64, human T-cell leukemia virus gp46, and human T-cell leukemia virus gp21.

[0038] The disclosure additionally concerns the use of any of the above-described **DA x CD3 Binding Molecules** or the above-described pharmaceutical composition in the treatment of a disease. In one aspect, the present disclosure refers to use of any one of the above-described **DA x CD3 Binding Molecules** or the above-described pharmaceutical composition in the manufacture of a medicament for the treatment of a cancer selected from the group consisting of adrenal cancer, bladder cancer, breast cancer, colorectal cancer, gastric cancer, glioblastoma, kidney cancer, non-small-cell lung cancer, hematological cancer, multiple myeloma, melanoma, ovarian cancer, pancreatic cancer, prostate cancer, skin cancer, renal cell carcinoma, testicular cancer, and uterine cancer. In another aspect, the present disclosure refers to any one of the above-described **DA x CD3 Binding Molecules** or the above-described pharmaceutical composition for use in the treatment of a cancer in a subject in need thereof, wherein said cancer is selected from the group consisting of: adrenal cancer, bladder cancer, breast cancer, colorectal cancer, gastric cancer, glioblastoma, kidney cancer, non-small-cell lung cancer, hematological cancer, multiple myeloma, melanoma, ovarian cancer, pancreatic cancer, prostate cancer, skin cancer, renal cell carcinoma, testicular cancer, and uterine cancer.

[0039] The disclosure additionally concerns the example of such use, wherein the disease is cancer. Including, examples, wherein the cancer is selected from the group consisting of adrenal cancer, bladder cancer, breast cancer, colorectal cancer, gastric cancer, glioblastoma, kidney cancer, non-small-cell lung cancer, hematological cancer, multiple myeloma, melanoma, ovarian cancer, pancreatic cancer, prostate cancer, skin cancer, renal cell carcinoma, testicular cancer, and uterine cancer.

[0040] The disclosure additionally concerns the example of such use, wherein the disease is a pathogen-associated disease. Including examples, wherein the Pathogen-Associated Antigen is selected from the group consisting of the Pathogen-Associated

WHAT IS CLAIMED IS:

Claim 1. A Disease Antigen x CD3 (**DA x CD3**) **Binding Molecule** comprising a CD3-Binding Domain capable of binding an epitope of CD3 and a Disease Antigen-Binding Domain capable of binding an epitope of a Disease Antigen, wherein said Disease Antigen is B7-H3, CEACAM5/CEACAM6, EGFR, EphA2, gpA33, HER2/neu, VEGF, 5T4, IL13Ra2, CD19, or CD123, and wherein said CD3-Binding Domain comprises:

- (I) (A) a CDR_{H1} Domain comprising an amino acid sequence selected from the group consisting of **SEQ ID NO:99, SEQ ID NO:91, SEQ ID NO:93, SEQ ID NO:95 and SEQ ID NO:97;**
- (B) a CDR_{H2} Domain comprising the amino acid sequence of **SEQ ID NO:58;**
- (C) a CDR_{H3} Domain comprising the amino acid sequence of **SEQ ID NO:59;**
- (D) a CDR_{L1} Domain comprising the amino acid sequence of **SEQ ID NO:60;**
- (E) a CDR_{L2} Domain comprising the amino acid sequence of **SEQ ID NO:61;** and
- (F) a CDR_{L3} Domain comprising the amino acid sequence of **SEQ ID NO:62;** or
- (II) (A) a CDR_{H1} Domain comprising the amino acid sequence of **SEQ ID NO:57;**
- (B) a CDR_{H2} Domain comprising the amino acid sequence of **SEQ ID NO:58;**
- (C) a CDR_{H3} Domain comprising an amino acid sequence selected from the group consisting of **SEQ ID NO:69, SEQ ID NO:71, SEQ ID NO:73, SEQ ID NO:75, SEQ ID NO:77, SEQ ID NO:83, SEQ ID NO:85, SEQ ID NO:87, SEQ ID NO:89, SEQ ID NO:101 and SEQ ID NO:103;**
- (D) a CDR_{L1} Domain comprising the amino acid sequence of **SEQ ID NO:60;**
- (E) a CDR_{L2} Domain comprising the amino acid sequence of **SEQ ID NO:61;** and

- (F) a CDR_L3 Domain comprising the amino acid sequence of **SEQ ID NO:62**; or
- (III) (A) a CDR_H1 Domain comprising the amino acid sequence of **SEQ ID NO:57**;
- (B) a CDR_H2 Domain comprising the amino acid sequence of **SEQ ID NO:58**;
- (C) a CDR_H3 Domain comprising the amino acid sequence of **SEQ ID NO:59**;
- (D) a CDR_L1 Domain comprising the amino acid sequence of **SEQ ID NO:60**;
- (E) a CDR_L2 Domain comprising the amino acid sequence of **SEQ ID NO:61**; and
- (F) a CDR_L3 Domain comprising an amino acid sequence selected from the group consisting of **SEQ ID NO:109** or **SEQ ID NO:111**; or
- (IV) (A) a CDR_H1 Domain comprising the amino acid sequence of **SEQ ID NO:57**;
- (B) a CDR_H2 Domain comprising the amino acid sequence of **SEQ ID NO:58**;
- (C) a CDR_H3 Domain comprising the amino acid sequence of **SEQ ID NO:59**;
- (D) a CDR_L1 Domain comprising the amino acid sequence of **SEQ ID NO:60**;
- (E) a CDR_L2 Domain comprising an amino acid sequence selected from the group consisting of **SEQ ID NO:113** and **SEQ ID NO:115**; and
- (F) a CDR_L3 Domain comprising the amino acid sequence of **SEQ ID NO:62**.

Claim 2. The **DA x CD3 Binding Molecule** of claim 1, wherein said CD3-Binding Domain comprises:

(A) a CDR_H1 Domain comprising an amino acid sequence of **SEQ ID NO:99;**

(B) a CDR_H2 Domain comprising the amino acid sequence of **SEQ ID NO:58;**

(C) a CDR_H3 Domain comprising the amino acid sequence of **SEQ ID NO:59;**

(D) a CDR_L1 Domain comprising the amino acid sequence of **SEQ ID NO:60;**

(E) a CDR_L2 Domain comprising the amino acid sequence of **SEQ ID NO:61;**

and

(F) a CDR_L3 Domain comprising the amino acid sequence of **SEQ ID NO:62.**

Claim 3. The **DA x CD3 Binding Molecule** of claim 1, wherein said CD3-Binding Domain comprises:

(I) (A) a VL Domain comprising the amino acid sequence of **SEQ ID NO:56;** and

(B) a VH Domain comprising an amino acid sequence selected from the group consisting of **SEQ ID NO:98, SEQ ID NO:68, SEQ ID NO:70, SEQ ID NO:72, SEQ ID NO:74, SEQ ID NO:76, SEQ ID NO:82, SEQ ID NO:84, SEQ ID NO:86, SEQ ID NO:88, SEQ ID NO:90, SEQ ID NO: 92, SEQ ID NO:94, SEQ ID NO:96, SEQ ID NO:100 and SEQ ID NO:102;**

or

(II) (A) a VL Domain comprising an amino acid sequence selected from the group consisting of **SEQ ID NO:108, SEQ ID NO:110, SEQ ID NO:112;** and **SEQ ID NO:114;** and

(B) a VH Domain comprising an amino acid sequence of **SEQ ID NO:55.**

Claim 4. The **DA x CD3 Binding Molecule** of claim 3, wherein said CD3-Binding

Domain comprises:

- and
- (A) a VL Domain comprising the amino acid sequence of **SEQ ID NO:56**;
 - (B) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 98**.

Claim 5. The **DA x CD3 Binding Molecule** of any one of claims 1-4, wherein said **DA x CD3 Binding Molecule** is a bispecific antibody, a bispecific diabody, a bispecific scFv, a bispecific TandAb, or a trivalent binding molecule.

Claim 6. The **DA x CD3 Binding Molecule** of any one of claims 1-4, wherein said Disease Antigen is 5T4, CD19, or CD123.

Claim 7. The **DA x CD3 Binding Molecule** of any one of claims 1-5, wherein said **DA x CD3 Binding Molecule** comprises: a first polypeptide chain and a second polypeptide chain, covalently bonded to one another, wherein:

(A) the first polypeptide chain comprises, in the N-terminal to C-terminal direction:

(i) a Domain 1, comprising:

- (1) a sub-Domain (1A), which comprises a VL Domain of a monoclonal antibody capable of binding to said epitope of a Disease Antigen (VL_{DA}); and
- (2) a sub-Domain (1B), which comprises a VH Domain of a monoclonal antibody capable of binding to said epitope of CD3 (VH_{CD3});

wherein said sub-Domains 1A and 1B are separated from one another by a peptide Linker; and

(ii) a Domain 2, wherein said Domain 2 is a Heterodimer-Promoting Domain;

(B) the second polypeptide chain comprises, in the N-terminal to C-terminal direction:

(i) a Domain 1, comprising:

- (1) a sub-Domain (1A), which comprises a VL Domain of said monoclonal antibody capable of binding to said epitope of CD3 (VL_{CD3}); and
- (2) a sub-Domain (1B), which comprises a VH Domain of

said monoclonal antibody capable of binding to said epitope of a Disease Antigen (VH_{DA});
 wherein said sub-Domains 1A and 1B are separated from one another by a peptide Linker;
 (ii) a Domain 2, wherein said Domain 2 is a Heterodimer-Promoting Domain, wherein said Heterodimer-Promoting Domain of said first and said second polypeptide chains are different;
 and wherein the VL Domain of the first polypeptide chain and the VH Domain of the second polypeptide chain associate to form the Disease Antigen-Binding Domain, and the VH Domain of the first polypeptide chain and the VL Domain of the second polypeptide chain associate to form the CD3-Binding Domain.

- Claim 8. The **DA x CD3 Binding Molecule** of claim 7, wherein:
- (a) said Heterodimer-Promoting Domain of said first polypeptide chain is an E-coil Domain, and said Heterodimer-Promoting Domain of said second polypeptide chain is a K-coil Domain; or
 - (b) said Heterodimer-Promoting Domain of said first polypeptide chain is a K-coil Domain, and said Heterodimer-Promoting Domain of said second polypeptide chain is an E-coil Domain.
- Claim 9. The **DA x CD3 Binding Molecule** of claim 7 or 8, wherein the first or second polypeptide chain additionally comprises a Domain 3 comprising a CH2 and CH3 Domain of an immunoglobulin Fc Domain.
- Claim 10. The **DA x CD3 Binding Molecule** of claim 9, wherein said **DA x CD3 Binding Molecule** further comprises a third polypeptide chain comprising a CH2 and CH3 Domain of an immunoglobulin Fc Domain.
- Claim 11. The **DA x CD3 Binding Molecule** of any one of claims 7-10, wherein said **DA x CD3 Binding Molecule** further comprises a CD8-Binding Domain.
- Claim 12. The **DA x CD3 Binding Molecule** of any one of claims 7-11, wherein said **DA x CD3 Binding Molecule** comprises:
- (I) (A) a first polypeptide comprising **SEQ ID NO:179**;
 - (B) a second polypeptide comprising **SEQ ID NO:175**; and
 - (C) a third polypeptide comprising **SEQ ID NO:176**; or

- (II) (A) a first polypeptide comprising **SEQ ID NO:184**;
- (B) a second polypeptide comprising **SEQ ID NO:181**; and
- (C) a third polypeptide comprising **SEQ ID NO:176**; or
- (III) (A) a first polypeptide comprising **SEQ ID NO:197**;
- (B) a second polypeptide comprising **SEQ ID NO:192**; and
- (C) a third polypeptide comprising **SEQ ID NO:176**; or
- (IV) (A) a first polypeptide comprising **SEQ ID NO:193**;
- (B) a second polypeptide comprising **SEQ ID NO:194**; and
- (C) a third polypeptide comprising **SEQ ID NO:176**; or
- (V) (A) a first polypeptide comprising **SEQ ID NO:179**;
- (B) a second polypeptide comprising **SEQ ID NO:175**;
- (C) a third polypeptide comprising **SEQ ID NO:187**; and
- (D) a fourth polypeptide comprising **SEQ ID NO:188**; or
- (VI) (A) a first polypeptide comprising **SEQ ID NO:184**;
- (B) a second polypeptide comprising **SEQ ID NO:181**;
- (C) a third polypeptide comprising **SEQ ID NO:187**; and
- (D) a fourth polypeptide comprising **SEQ ID NO:188**; or
- (VII) (A) a first polypeptide comprising **SEQ ID NO:193**;
- (B) a second polypeptide comprising **SEQ ID NO:194**;
- (C) a third polypeptide comprising **SEQ ID NO:187**; and
- (D) a fourth polypeptide comprising **SEQ ID NO:188**.

Claim 13. The **DA x CD3 Binding Molecule** of claim 12, wherein said **DA x CD3 Binding Molecule** comprises:

- (A) a first polypeptide comprising **SEQ ID NO:179**;
- (B) a second polypeptide comprising **SEQ ID NO:175**; and
- (C) a third polypeptide comprising **SEQ ID NO:176**.

Claim 14. The **DA x CD3 Binding Molecule** of claim 12, wherein said **DA x CD3 Binding Molecule** comprises:

- (A) a first polypeptide comprising **SEQ ID NO:179**;
- (B) a second polypeptide comprising **SEQ ID NO:175**;
- (C) a third polypeptide comprising **SEQ ID NO:187**; and
- (D) a fourth polypeptide comprising **SEQ ID NO:188**.

Claim 15. The **DA x CD3 Binding Molecule** of any one of claims 1-11, wherein said Disease Antigen-Binding Domain comprises:

(I) (A) (i) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3} Domain of **SEQ ID NO: 122**, (ii) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3} Domain of **SEQ ID NO: 123**, (iii) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3} Domain of **SEQ ID NO: 126**, (iv) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3} Domain of **SEQ ID NO: 128**, or (v) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3} Domain of **SEQ ID NO: 130**; and

(B) (i) the CDR_{L1} Domain, the CDR_{L2} Domain, and the CDR_{L3} Domain of **SEQ ID NO: 124**, (ii) the CDR_{L1} Domain, the CDR_{L2} Domain, and the CDR_{L3} Domain of **SEQ ID NO: 125**, (iii) the CDR_{L1} Domain, the CDR_{L2} Domain, and the CDR_{L3} Domain of **SEQ ID NO: 127**, (iv) the CDR_{L1} Domain, the CDR_{L2} Domain, and the CDR_{L3} Domain of **SEQ ID NO: 129**, or (i) the CDR_{L1} Domain, the CDR_{L2} Domain, and the CDR_{L3} Domain of **SEQ ID NO: 131**;

(II) (A) (i) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3} Domain of **SEQ ID NO: 132**, or (ii) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3} Domain of **SEQ ID NO: 134**; and

(B) (i) the CDR_{L1} Domain, the CDR_{L2} Domain, and the CDR_{L3} Domain of **SEQ ID NO: 133**, or (ii) the CDR_{L1} Domain, the CDR_{L2} Domain, and the CDR_{L3} Domain of **SEQ ID NO: 135**;

(III) (A) (i) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3} Domain of **SEQ ID NO: 136**, or (ii) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3} Domain of **SEQ ID NO: 138**; and

(B) (i) the CDR_{L1} Domain, the CDR_{L2} Domain, and the CDR_{L3} Domain of **SEQ ID NO: 137**, or (ii) the CDR_{L1} Domain, the CDR_{L2} Domain, and the CDR_{L3} Domain of **SEQ ID NO: 139**;

(IV) (A) (i) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3}

Domain of **SEQ ID NO: 140**, (ii) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3} Domain of **SEQ ID NO: 142**, or (iii) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3} Domain of **SEQ ID NO: 144**; and

(B) (i) the CDR_{L1} Domain, the CDR_{L2} Domain, and the CDR_{L3} Domain of **SEQ ID NO: 141**, (ii) the CDR_{L1} Domain, the CDR_{L2} Domain, and the CDR_{L3} Domain of **SEQ ID NO: 143**, or (iii) the CDR_{L1} Domain, the CDR_{L2} Domain, and the CDR_{L3} Domain of **SEQ ID NO: 145**;

(V) (A) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3} Domain of **SEQ ID NO: 146**; and

(B) the CDR_{L1} Domain, the CDR_{L2} Domain, and the CDR_{L3} Domain of **SEQ ID NO: 147**;

(VI) (A) (i) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3} Domain of **SEQ ID NO: 148**, (ii) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3} Domain of **SEQ ID NO: 150**, or (iii) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3} Domain of **SEQ ID NO: 152**; and

(B) (i) the CDR_{L1} Domain, the CDR_{L2} Domain, and the CDR_{L3} Domain of **SEQ ID NO: 149**, (ii) the CDR_{L1} Domain, the CDR_{L2} Domain, and the CDR_{L3} Domain of **SEQ ID NO: 151**, or (iii) the CDR_{L1} Domain, the CDR_{L2} Domain, and the CDR_{L3} Domain of **SEQ ID NO: 153**;

(VII) (A) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3} Domain of **SEQ ID NO: 154**; and

(B) the CDR_{L1} Domain, the CDR_{L2} Domain, and the CDR_{L3} Domain of **SEQ ID NO: 155**;

(VIII) (A) (i) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3} Domain of **SEQ ID NO: 156**, or (ii) the CDR_{H1} Domain, the CDR_{H2} Domain, and the CDR_{H3} Domain of **SEQ ID NO: 158**; and

(B) (i) the CDR_L1 Domain, the CDR_L2 Domain, and the CDR_L3 Domain of **SEQ ID NO: 157**, or (ii) the CDR_L1 Domain, the CDR_L2 Domain, and the CDR_L3 Domain of **SEQ ID NO: 159**;

(IX) (A) the CDR_H1 Domain, the CDR_H2 Domain, and the CDR_H3 Domain of **SEQ ID NO: 160**; and

(B) the CDR_L1 Domain, the CDR_L2 Domain, and the CDR_L3 Domain of **SEQ ID NO: 161**; or

(X) (A) (i) the CDR_H1 Domain, the CDR_H2 Domain, and the CDR_H3 Domain of **SEQ ID NO: 164**; and

(B) (i) the CDR_L1 Domain, the CDR_L2 Domain, and the CDR_L3 Domain of **SEQ ID NO: 165**, or (ii) the CDR_L1 Domain, the CDR_L2 Domain, and the CDR_L3 Domain of **SEQ ID NO: 195**; or

(XI) (A) the CDR_H1 Domain, the CDR_H2 Domain, and the CDR_H3 Domain of **SEQ ID NO: 162**; and

(B) the CDR_L1 Domain, the CDR_L2 Domain, and the CDR_L3 Domain of **SEQ ID NO: 163**.

Claim 16. The **DA x CD3 Binding Molecule** of any one of claims 1 to 11, wherein said Disease Antigen-Binding Domain comprises:

(A) the CDR_H1 Domain, the CDR_H2 Domain, and the CDR_H3 Domain of **SEQ ID NO: 162**; and

(B) the CDR_L1 Domain, the CDR_L2 Domain, and the CDR_L3 Domain of **SEQ ID NO: 163**.

Claim 17. The **DA x CD3 Binding Molecule** of any one of claims 1 to 11, wherein said Disease Antigen-Binding Domain comprises:

(I) (A) (i) a VH Domain comprising the amino acid sequence of **SEQ ID**

NO: 122, (ii) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 123**, (iii) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 126**, (iv) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 128**, or (v) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 130**; and

(B) (i) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 124**, (ii) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 125**, (iii) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 127**, (iv) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 129**, or (i) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 131**;

(II) (A) (i) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 132**, or (ii) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 134**; and

(B) (i) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 133**, or (ii) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 135**;

(III) (A) (i) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 136**, or (ii) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 138**; and

(B) (i) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 137**, or (ii) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 139**;

(IV) (A) (i) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 140**, (ii) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 142**, or (iii) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 144**; and

(B) (i) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 141**, (ii) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 143**, or (iii) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 145**;

(V) (A) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 146**; and

(B) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 147**;

(VI) (A) (i) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 148**, (ii) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 150**, or (iii) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 152**; and

(B) (i) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 149**, (ii) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 151**, or (iii) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 153**;

(VII) (A) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 154**; and

(B) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 155**;

(VIII) (A) (i) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 156**, or (ii) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 158**; and

(B) (i) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 157**, or (ii) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 159**;

(IX) (A) a VH Domain comprising the amino acid sequence of **SEQ ID NO:**

160; and

(B) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 161;**

(X) (A) (i) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 164;** and

(B) (i) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 165,**
or (ii) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 195;**
or

(XI) (A) (i) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 162;** and

(B) (i) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 163.**

Claim 18. The **DA x CD3 Binding Molecule** of claim 17, wherein said Disease Antigen-Binding Domain comprises:

(A) a VH Domain comprising the amino acid sequence of **SEQ ID NO: 162;**
and

(B) a VL Domain comprising the amino acid sequence of **SEQ ID NO: 163.**

Claim 19. The **DA x CD3 Binding Molecule** of any one of claims 1 to 18, wherein said Disease Antigen is CD123.

Claim 20. A pharmaceutical composition that comprises the **DA x CD3 Binding Molecule** of any one of claims 1-19 and a pharmaceutically acceptable carrier.

Claim 21. The pharmaceutical composition of claim 20, wherein said pharmaceutical composition is supplied as a dry lyophilized powder.

Claim 22. The pharmaceutical composition of claim 20, wherein said pharmaceutical composition is supplied in a liquid form.

- Claim 23. The pharmaceutical composition of any one of claims 20-22, wherein said pharmaceutical composition is supplied in a hermetically sealed container.
- Claim 24. Use of the **DA x CD3 Binding Molecule** of any one of claims 1-19 or the pharmaceutical composition of any one of claims 20-23 in the manufacture of a medicament for the treatment of a cancer selected from the group consisting of adrenal cancer, bladder cancer, breast cancer, colorectal cancer, gastric cancer, glioblastoma, kidney cancer, non-small-cell lung cancer, hematological cancer, multiple myeloma, melanoma, ovarian cancer, pancreatic cancer, prostate cancer, skin cancer, renal cell carcinoma, testicular cancer, and uterine cancer.
- Claim 25. The **DA x CD3 Binding Molecule** of any one of claims 1-19 or the pharmaceutical composition of any one of claims 20-23 for use in the treatment of a cancer in a subject in need thereof, wherein said cancer is selected from the group consisting of: adrenal cancer, bladder cancer, breast cancer, colorectal cancer, gastric cancer, glioblastoma, kidney cancer, non-small-cell lung cancer, hematological cancer, multiple myeloma, melanoma, ovarian cancer, pancreatic cancer, prostate cancer, skin cancer, renal cell carcinoma, testicular cancer, and uterine cancer.
- Claim 26. The use according to claim 24 or the **DA x CD3 Binding Molecule** or pharmaceutical composition for use according to claim 25, wherein said cancer is a hematological cancer.
- Claim 27. The use or the **DA x CD3 Binding Molecule** or pharmaceutical composition for use according to claim 26, wherein said hematological cancer is selected from the group consisting of: acute myeloid leukemia (AML), chronic myelogenous leukemia (CML), myelodysplastic syndrome (MDS), acute B lymphoblastic leukemia (B-ALL), chronic lymphocytic leukemia (CLL), Richter's syndrome, hairy cell leukemia (HCL), blastic plasmacytoid dendritic cell neoplasm (BPDCN), non-Hodgkin's lymphoma (NHL), including mantle cell lymphoma (MCL) and small lymphocytic lymphoma (SLL), Hodgkin's lymphoma, systemic mastocytosis, and Burkitt's lymphoma.
- Claim 28. The use or the **DA x CD3 Binding Molecule** or pharmaceutical composition for use according to claim 27, wherein said hematological cancer is AML.

- Claim 29. The use or the **DA x CD3 Binding Molecule** or pharmaceutical composition for use according to claim 27, wherein said hematological cancer is Hodgkin's lymphoma.
- Claim 30. The use or the **DA x CD3 Binding Molecule** or pharmaceutical composition for use according to claim 27, wherein said hematological cancer is CML.
- Claim 31. The use or the **DA x CD3 Binding Molecule** or pharmaceutical composition for use according to claim 27, wherein said hematological cancer is B-ALL.
- Claim 32. The use or the **DA x CD3 Binding Molecule** or pharmaceutical composition for use according to claim 27, wherein said hematological cancer is HCL.
- Claim 33. The use or the **DA x CD3 Binding Molecule** or pharmaceutical composition for use according to claim 27, wherein said hematological cancer is BPDCN.
- Claim 34. The use or the **DA x CD3 Binding Molecule** or pharmaceutical composition for use according to claim 27, wherein said hematological cancer is MDS.
- Claim 35. The use or the **DA x CD3 Binding Molecule** or pharmaceutical composition for use according to claim 27, wherein said hematological cancer is mastocytosis.
- Claim 36. The use or the **DA x CD3 Binding Molecule** or pharmaceutical composition for use according to any one of claims 24-35, wherein the **DA x CD3 Binding Molecule** is to be administered intravenously.
- Claim 37. The use or the **DA x CD3 Binding Molecule** or pharmaceutical composition for use according to claim 36, wherein said intravenous administration is by infusion.
- Claim 38. The use or the **DA x CD3 Binding Molecule** or pharmaceutical composition for use according to any one of claims 24-37, wherein the **DA x CD3 Binding Molecule** is to be administered at a dosage of 0.01 µg/kg to 30 mg/kg of said subject's body weight.
- Claim 39. The use or the **DA x CD3 Binding Molecule** or pharmaceutical composition for use according to any one of claims 24-38, wherein the **DA x CD3 Binding**

Molecule is to be administered once a week, once every two weeks, or once a month.

Claim 40. A vector comprising a polynucleotide encoding the polypeptide chains of the **DA x CD3 Binding Molecule** of any one of claims 7-14.

Claim 41. A host cell comprising the vector of claim 40.

Claim 42. A host cell comprising:

- (a) a polynucleotide encoding the polypeptide chain of **SEQ ID NO: 179**;
- (b) a polynucleotide encoding the polypeptide chain of **SEQ ID NO: 175**;
and
- (c) a polynucleotide encoding the polypeptide chain of **SEQ ID NO: 176**.