

bi-specific, etc. antibody of the disclosure. Where the antibody is bispecific, a second antigen-binding site may specifically bind a pathogen antigen, e.g. bacteria, viruses or parasites.

[0019a] In another aspect, there is provided a multispecific antibody disclosed herein, or the pharmaceutical composition disclosed herein, for use in therapy in an individual in need.

[0019b] In another aspect, there is provided use of an effective dose of the multispecific antibody disclosed herein, or the pharmaceutical composition disclosed herein, in the preparation of a medicament for treating a disease or condition in an individual in need, wherein the disease is a cancer.

[0019] In other examples, a method is provided for the production of a bispecific antibody of the present disclosure comprising expressing the antibody sequences, e.g. one or more light chain encoding sequences, one or more heavy chain encoding sequences, in a single host cell. In another aspect, there is provided a method of producing a multispecific antibody disclosed herein, comprising growing a cell disclosed herein under conditions permissive for expression of the multispecific antibody, and isolating the multispecific antibody from the cell. In another example, there is provided a method of producing a bispecific antibody disclosed herein, comprising growing a cell disclosed herein under conditions permissive for expression of the bispecific antibody, and isolating the bispecific antibody from the cell. In various examples, the host cell may be a prokaryotic or an eukaryotic cell, such as a mammalian cell.

[0020a] In another aspect, there is provided a polynucleotide encoding a multispecific antibody disclosed herein. In another aspect, there is provided a polynucleotide encoding a bispecific antibody disclosed herein.

[0020b] In another aspect, there is provided a vector comprising a polynucleotide disclosed herein.

[0020c] In another aspect, there is provided a cell comprising a vector disclosed herein.

[0020d] In another aspect, there is provided a kit for treating a disease or disorder in an individual in need, comprising a multispecific antibody disclosed herein, or the pharmaceutical composition disclosed herein, and instructions for use, wherein the disease or disorder is a cancer.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is best understood from the following detailed description when read in conjunction with the accompanying drawings. The patent or application file contains at least one drawing executed in color. Copies of this patent or patent application publication with color drawing(s) will be provided by the Office upon request and payment of the necessary fee. It is emphasized that, according to common practice, the various features of the drawings are not

WHAT IS CLAIMED IS:

1. A multispecific antibody comprising:
 - (i) a first binding moiety that has binding specificity for human CD3 $\delta\epsilon$, comprising:
 - a heavy chain variable domain comprising
 - (A) a CDR1 sequence comprising GFTFDDYA, a CDR2 sequence comprising ISWNSGSI, and a CDR3 sequence comprising AKDSRGYGDYRLGGAY, or
 - (B) a CDR1 sequence comprising GFTFHNYA, a CDR2 sequence comprising ISWNSGSI, and a CDR3 sequence comprising AKDSRGYGDYSLGGAY; and
 - a light chain variable domain comprising a CDR1 sequence comprising QSVSSN, a CDR2 sequence comprising GAS, and a CDR3 sequence comprising QQYNNWPWT; and
 - (ii) a second binding moiety that has binding specificity for a tumor-associated antigen (TAA) or a tumor-specific antigen (TSA).
2. The multispecific antibody of claim 1, wherein the first binding moiety comprises a heavy chain variable domain comprising a CDR1 sequence comprising GFTFDDYA, a CDR2 sequence comprising ISWNSGSI, and a CDR3 sequence comprising AKDSRGYGDYRLGGAY.
3. The multispecific antibody of claim 1, wherein the first binding moiety comprises a heavy chain variable domain comprising a CDR1 sequence comprising GFTFHNYA, a CDR2 sequence comprising ISWNSGSI, and a CDR3 sequence comprising AKDSRGYGDYSLGGAY.
4. The multispecific antibody of any one of claims 1-3, wherein:
 - the CDR1, CDR2 and CDR3 sequences in the heavy chain variable domain of the first binding moiety are present in a human VH framework; and
 - the CDR1, CDR2 and CDR3 sequences in the light chain variable domain of the first binding moiety are present in a human Vkappa framework.
5. The multispecific antibody of claim 4, wherein:
 - the heavy chain variable domain of the first binding moiety comprises a sequence having at least 95% identity to SEQ ID NO: 1; and
 - the light chain variable domain of the first binding moiety comprises a sequence having at least 95% identity to SEQ ID NO: 19.
6. The multispecific antibody of claim 4, wherein:

the heavy chain variable domain of the first binding moiety comprises a sequence having at least 95% identity to SEQ ID NO: 13; and

the light chain variable domain of the first binding moiety comprises a sequence having at least 95% identity to SEQ ID NO: 19.

7. The multispecific antibody of claim 5, wherein:

the heavy chain variable domain of the first binding moiety comprises the sequence of SEQ ID NO: 1; and

the light chain variable domain of the first binding moiety comprises the sequence of SEQ ID NO: 19.

8. The multispecific antibody of claim 6, wherein:

the heavy chain variable domain of the first binding moiety comprises the sequence of SEQ ID NO: 13; and

the light chain variable domain of the first binding moiety comprises the sequence of SEQ ID NO: 19.

9. The multispecific antibody of claim 1, wherein the second binding moiety comprises a single heavy chain variable region, in a single or tandem configuration.

10. The multispecific antibody of claim 1, wherein the first binding moiety comprises a light chain polypeptide subunit and a heavy chain polypeptide subunit, and wherein the second binding moiety comprises a heavy chain polypeptide subunit.

11. The multispecific antibody of claim 10, wherein the light chain polypeptide subunit of the first binding moiety comprises a light chain constant domain.

12. The multispecific antibody of claim 10, wherein the heavy chain polypeptide subunit of the first binding moiety comprises at least one heavy chain constant domain.

13. The multispecific antibody of claim 12, wherein the heavy chain polypeptide subunit of the first binding moiety comprises a CH1 domain, a CH2 domain, and a CH3 domain.

14. The multispecific antibody of claim 13, wherein the heavy chain polypeptide subunit of the first binding moiety comprises a hinge region positioned between the CH1 domain and the CH2 domain.
15. The multispecific antibody of claim 10, wherein the heavy chain polypeptide subunit of the second binding moiety comprises at least one constant domain.
16. The multispecific antibody of claim 15, wherein the heavy chain polypeptide subunit of the second binding moiety comprises a CH2 domain and a CH3 domain, but no CH1 domain.
17. The multispecific antibody of claim 15 or 16, wherein the heavy chain polypeptide subunit of the second binding moiety comprises a hinge region positioned between the second binding moiety and the CH2 domain.
18. The multispecific antibody of any one of claims 13-17, wherein the CH2 and CH3 domains of the heavy chain polypeptide subunit of the first binding moiety and the CH2 and CH3 domains of the heavy chain polypeptide subunit of the second binding moiety together form an Fc region.
19. The multispecific antibody of claim 18, wherein the Fc region comprises a native-sequence human IgG1 Fc region.
20. The multispecific antibody of claim 18, wherein the Fc region comprises a variant human IgG1 Fc region.
21. The multispecific antibody of claim 20, wherein the variant human IgG1 Fc region has been engineered to reduce one or more effector functions.
22. The multispecific antibody of claim 18, wherein the Fc region comprises a native-sequence human IgG4 Fc region.
23. The multispecific antibody of claim 18, wherein the Fc region comprises a variant human IgG4 Fc region.
24. The multispecific antibody of claim 23, wherein the variant human IgG4 Fc region has been engineered to reduce one or more effector functions.

25. The multispecific antibody according to any one of claims 18-24, wherein the Fc region has been engineered to reduce homodimer formation.
26. A pharmaceutical composition comprising a multispecific antibody according to any one of claims 1-25.
27. A polynucleotide encoding a multispecific antibody according to any one of claims 1-25.
28. A vector comprising a polynucleotide according to claim 27.
29. A cell comprising a vector according to claim 28.
30. A method of producing a multispecific antibody according to any one of claims 1-25, comprising growing a cell according to claim 29 under conditions permissive for expression of the multispecific antibody, and isolating the multispecific antibody from the cell.
31. The multispecific antibody of any one of claims 1-25, or the pharmaceutical composition of claim 26, for use in therapy in an individual in need.
32. Use of an effective dose of the multispecific antibody according to any one of claims 1-25, or the pharmaceutical composition of claim 26, in the preparation of a medicament for treating a disease of condition in an individual in need, wherein the disease is a cancer.
33. A kit for treating a disease or disorder in an individual in need, comprising a multispecific antibody of any one of claims 1-25, or the pharmaceutical composition of claim 26, and instructions for use, wherein the disease or disorder is a cancer.
34. The kit of claim 33, further comprising at least one additional reagent.
35. The kit of claim 33, wherein the at least one additional reagent comprises a chemotherapeutic drug.
36. The multispecific antibody of claim 1, wherein the multispecific antibody is a bispecific antibody.