

Claims

1. A specific binding member that binds CD137 and comprises a CD137 antigen-binding site located in a CH3 domain of the specific binding member, the CD137 antigen-binding site comprising the sequence PPY (SEQ ID NO: **10**) located in the AB structural loop
5 of the CH3 domain, wherein the specific binding member comprises the CH3 domain sequence of specific binding member:

- (i) **FS22-172-003** set forth in SEQ ID NO: **139**;
- (ii) **FS22-172-002** set forth in SEQ ID NO: **130**;
- (iii) **FS22-172-004** set forth in SEQ ID NO: **148**;
- 10 (iv) **FS22-172-001** set forth in SEQ ID NO: **121**;
- (v) **FS22-172-005** set forth in SEQ ID NO: **157**;
- (vi) **FS22-172-006** set forth in SEQ ID NO: **165**;
- (vii) **FS22-172** set forth in SEQ ID NO: **112**;
- (viii) **FS22-053-008** set forth in SEQ ID NO: **21**;
- 15 (ix) **FS22-053-009** set forth in SEQ ID NO: **30**;
- (x) **FS22-053-011** set forth in SEQ ID NO: **48**;
- (xi) **FS22-053-017** set forth in SEQ ID NO: **102**;
- (xii) **FS22-053-014** set forth in SEQ ID NO: **75**;
- (xiii) **FS22-053-010** set forth in SEQ ID NO: **39**;
- 20 (xiv) **FS22-053-012** set forth in SEQ ID NO: **57**;
- (xv) **FS22-053-013** set forth in SEQ ID NO: **66**;
- (xvi) **FS22-053-015** set forth in SEQ ID NO: **84**;
- (xvii) **FS22-053-016** set forth in SEQ ID NO: **93**; or
- (xviii) **FS22-053** set forth in SEQ ID NO: **175**; and

25 wherein the specific binding member further comprises a CH2 domain.

2. The specific binding member according to claim 1, wherein the specific binding member comprises the sequence of specific binding member **FS22-172-003**, **FS22-172-002**, **FS22-172-004**, **FS22-172-001**, **FS22-172-005**, **FS22-172-006**, **FS22-172**, **FS22-053-008**,
30 **FS22-053-009**, **FS22-053-011**, **FS22-053-017**, **FS22-053-014**, **FS22-053-010**, **FS22-053-012**, **FS22-053-013**, **FS22-053-015**, **FS22-053-016**, or **FS22-053** set forth in SEQ ID NO: 141, 132, 150, 123, 159, 167, 114, 23, 32, 50, 104, 77, 41, 59, 68, 86, 95, and 15, respectively.

35 3. The specific binding member according to claim 1 or 2, wherein the specific binding member comprises the CH3 domain sequence of **FS22-172-003**, sequence of **FS22-172-**

003, CH3 domain sequence of **FS22-053-008**, sequence of **FS22-053-008**, CH3 domain sequence of **FS22-053-017**, or sequence of **FS22-053-017**,

wherein the CH3 domain sequence of **FS22-172-003** is the sequence set forth in SEQ ID NO: **139**,

5 wherein the sequence of **FS22-172-003** is the sequence set forth in SEQ ID NO: **141**, wherein the CH3 domain sequence of **FS22-053-008** is the sequence set forth in SEQ ID NO: **21**,

wherein the sequence of **FS22-053-008** is the sequence set forth in SEQ ID NO: **23**,

wherein the CH3 domain sequence of **FS22-053-017** is the sequence set forth in

10 SEQ ID NO: **102**, and

wherein the sequence of **FS22-053-017** is the sequence set forth in SEQ ID NO: **104**.

4. The specific binding member according to claim 3, wherein the specific binding member comprises the CH3 domain sequence or sequence of specific binding member
15 **FS22-172-003**, wherein the sequence of **FS22-172-003** is the sequence set forth in SEQ ID NO: **141**.

5. The specific binding member according to any one of claims 1 to 4, wherein the CH3 domain further comprises a lysine residue (K) at the immediate C-terminus of the CH3
20 domain sequence.

6. The specific binding member according to any one of claims 1 to 5, wherein the specific binding member further comprises a CDR-based antigen-binding site.

25 7. The specific binding member according to claim 6, wherein the specific binding member is an antibody molecule.

8. The specific binding member or antibody molecule according to claim 6 or 7, wherein the CDR-based antigen-binding site binds a second antigen selected from the group
30 consisting of: an immune cell antigen, a tumour antigen, and a pathogenic antigen.

9. The specific binding member or antibody molecule according to any one of claims 1 to 8, wherein the specific binding member or antibody molecule has been modified to reduce or abrogate binding of the specific binding member or antibody molecule to one or more Fcγ
35 receptors.

10. A nucleic acid molecule or molecules encoding the specific binding member or antibody molecule according to any one of claims 1 to 9.

5 11. A recombinant host cell comprising the nucleic acid molecule or molecules according to claim 10.

12. A method of producing a specific binding member or antibody molecule according to any one of claims 1 to 9, comprising culturing the recombinant host cell of claim 11 under conditions for production of the specific binding member or antibody molecule.

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13. A pharmaceutical composition for the treatment of cancer or an infectious disease in an individual, comprising the specific binding member or antibody molecule according to any one of claims 1 to 9.