

Claims

1. An antibody comprising a first antigen-binding region capable of binding to human V δ 2, wherein said first antigen-binding region comprises a CDR1 sequence
5 as set forth in SEQ ID NO:1, a CDR2 sequence as set forth in SEQ ID NO:2 and a CDR3 sequence as set forth in SEQ ID NO:3.
2. The antibody according to claim 1, wherein
 - X₁ in SEQ ID NO:1 is S (Ser) and X₂ in SEQ ID NO:3 is F (Phe), or
 - 10 • X₁ in SEQ ID NO:1 is S (Ser) and X₂ in SEQ ID NO:3 is S (Ser).
3. The antibody according to any one of the preceding claims, wherein the first antigen-binding region is a single-domain antibody.
- 15 4. The antibody according to any one of the preceding claims, wherein the first antigen-binding region comprises or consists of:
 - the sequence set forth in SEQ ID NO:4, or
 - a sequence having at least 90%, such as at least 92%, e.g. at least 94%, such as at least 96%, e.g. at least 98% sequence identity to the sequence set forth
20 in SEQ ID NO:4.
5. The antibody according to any one of the preceding claims, wherein the antibody further comprises a second antigen-binding region and wherein the second antigen-binding region preferably is a single-domain antibody.
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6. The antibody according to claim 4, wherein the antibody is a bispecific antibody.
7. The antibody according to any one of the preceding claims, wherein the antibody comprises a second antigen-binding region and wherein the second

antigen-binding region is capable of binding human EGFR.

8. The antibody according to any one of the preceding claims, wherein the antibody comprises a second antigen-binding region and wherein the second antigen-binding region comprises the CDR1 sequence set forth in SEQ ID NO:5, the CDR2 sequence set forth in SEQ ID NO:6 and the CDR3 sequence set forth in SEQ ID NO:7, and

wherein preferably, the second antigen-binding region comprises or consists of

- the sequence set forth in SEQ ID NO:8, or
- a sequence having at least 90%, such as at least 92%, e.g. at least 94%, such as at least 96%, e.g. at least 98% sequence identity to the sequence set forth in SEQ ID NO:8.

9. The antibody according to any one of the preceding claims, wherein the antibody comprises a second antigen-binding region and wherein the first antigen-binding region comprises the CDR1 sequence set forth in SEQ ID NO:1, the CDR2 sequence set forth in SEQ ID NO:2 and the CDR3 sequence set forth in SEQ ID NO:3 and wherein the second antigen-binding region comprises the CDR1 sequence set forth in SEQ ID NO:5, the CDR2 sequence set forth in SEQ ID NO:6 and the CDR3 sequence set forth in SEQ ID NO:7.

10. The antibody according to any one of the preceding claims, wherein the antibody is capable of mediating killing of human EGFR-expressing cells.

11. The antibody according to any one of the preceding claims, wherein the first antigen-binding region and second antigen-binding region are covalently linked via a peptide linker.

12. The antibody according to any one of the preceding claims, wherein the

antibody further comprises a half-life extension domain, such as an Fc region.

13. The antibody according to any one of claims 5 to 10, wherein the antibody comprises an Fc region, wherein the Fc region is a heterodimer comprising two Fc polypeptides, wherein the first antigen-binding region is fused to the first Fc polypeptide and the second antigen-binding region is fused to the second Fc polypeptide and wherein the first and second Fc polypeptides comprise asymmetric amino acid mutations that favor the formation of heterodimers over the formation of homodimers.

14. The antibody according to claim 13, wherein the CH3 regions of the Fc polypeptides comprise said asymmetric amino acid mutations, preferably the first Fc polypeptide comprises a T366W substitution and the second Fc polypeptide comprises T366S, L368A and Y407V substitutions, or vice versa, wherein the amino acid positions correspond to human IgG1 according to the EU numbering system.

15. The antibody according to any one of claims 12 to 14, wherein the first and second Fc polypeptides comprise a mutation at position 234 and/or 235, preferably the first and second Fc polypeptide comprise an L234F and an L235E substitution, wherein the amino acid positions correspond to human IgG1 according to the EU numbering system.

16. The antibody according to any one of claims 12 to 15, wherein the antibody comprises a second antigen-binding region and wherein the first antigen-binding region comprises the sequence set forth in SEQ ID NO:4, the second antigen-binding region comprises the sequence set forth in SEQ ID NO:8 and

- the first Fc polypeptide comprises the sequence set forth in SEQ ID NO:11 and the second Fc polypeptide comprises the sequence set forth in SEQ ID NO:12, or

- the first Fc polypeptide comprises the sequence set forth in SEQ ID NO:11 and the second Fc polypeptide comprises the sequence set forth in SEQ ID NO:12.

17. The antibody according to any one of claims 12 to 16 wherein the antibody
5 comprises or consists of the sequences set forth in SEQ ID NO:16 and SEQ ID NO:17 or comprises or consists of the sequences set forth in SEQ ID NO:16 and SEQ ID NO:18.

18. A pharmaceutical composition comprising an antibody according to any one of
10 the preceding claims and a pharmaceutically-acceptable excipient.

19. The antibody according to any one of claims 1 to 17 for use as a medicament, preferably for use in the treatment of cancer.

15 20. A nucleic acid construct encoding the antibody according to any one of claims 1 to 17, an expression vector comprising said nucleic acid, or a host cell comprising one or more nucleic acid constructs encoding the antibody according to any one of claims 1 to 17.

20 21. A process for manufacturing an antibody free of tyrosine sulfation, comprising expressing one or more nucleic acids encoding the antibody according to any one of claims 1 to 17 in a host cell, wherein the host cell preferably is a Chinese Hamster Ovary cell, a Human Embryonic Kidney cell or a Pichia pastoris cell.

Claims

1. An antibody comprising a first antigen-binding region capable of binding to human EGFR, wherein said antibody comprises a first antigen-binding region comprising the sequence set forth in SEQ ID NO:8.
2. The antibody according to claim 1, wherein the first antigen-binding region is a single-domain antibody.
3. The antibody according to any one of claims 1-2, wherein the antibody is a bispecific antibody.
4. A pharmaceutical composition comprising an antibody according to any one of claims 1-3 and a pharmaceutically-acceptable excipient.
5. A nucleic acid construct encoding the antibody according to any one of claims 1-3, an expression vector comprising said nucleic acid, or a host cell comprising one or more nucleic acid constructs encoding the antibody according to any one of claims 1-3.
6. A method of manufacturing the antibody according to any one of claims 1-3, comprising expressing one or more nucleic acids encoding the antibody in a host cell.
7. The antibody of any one of claims 1-3, wherein the antibody is a bispecific antibody comprising a first antigen-binding region capable of binding to human EGFR, wherein said first antigen-binding region comprises a CDR1 sequence as set forth in SEQ ID NO:5, a CDR2 sequence as set forth in SEQ ID NO:6 and a CDR3 sequence as set forth in SEQ ID NO:7, and wherein the bispecific antibody comprises a second antigen-binding region capable of binding to human Vδ2, wherein said second antigen-binding region comprises a CDR1 sequence as set forth in SEQ ID NO:1, a CDR2 sequence as set forth in SEQ ID NO:2 and a CDR3 sequence as set forth in SEQ ID NO:3.

8. The bispecific antibody according to claim 7, wherein
 - a. X₁ in SEQ ID NO: 1 is S (Ser) and X₂ in SEQ ID NO:3 is F (Phe), or
 - b. X₁ in SEQ ID NO:1 is S (Ser) and X₂ in SEQ ID NO:3 is S (Ser).
9. The bispecific antibody according to any one of claims 7-8, wherein X₁ in SEQ ID NO: 1 is S (Ser) and X₂ in SEQ ID NO:3 is F (Phe).
10. The bispecific antibody according to any one of claims 7-9, wherein the first antigen-binding region comprises
 - c. the sequence set forth in SEQ ID NO:8, or
 - d. a sequence having at least 90%, such as at least 92%, e.g. at least 94%, such as at least 96%, e.g. at least 98% sequence identity to the sequence set forth in SEQ ID NO:8.
11. The bispecific antibody according to any one of claims 7-10, wherein the first and/or second antigen-binding region is a single-domain antibody.
12. The bispecific antibody according to any one of claims 7-11, wherein the antibody is capable of mediating killing of human EGFR-expressing cells.
13. The bispecific antibody according to any one of claims 7-12, wherein the antibody further comprises an Fc region.
14. The bispecific antibody according to claim 13, wherein the Fc region is a heterodimer comprising two Fc polypeptides, wherein the first antigen-binding region is fused to the first Fc polypeptide and the second antigen-binding region is fused to the second Fc polypeptide and wherein the first and second Fc polypeptides comprise asymmetric amino acid mutations that favor the formation of heterodimers over the formation of homodimers.
15. The bispecific antibody according to any one of claims 13-14, wherein the CH3 regions of the Fc polypeptides comprise said asymmetric amino acid mutations, preferably the first Fc

polypeptide comprises a T366W substitution, and the second Fc polypeptide comprises T366S, L368A and Y407V substitutions, or vice versa, wherein the amino acid positions correspond to human IgG1 according to the EU numbering system; and/or

wherein the first and second Fc polypeptides comprise a mutation at position 234 and/or 235, preferably the first and second Fc polypeptide comprise an L234F and an L235E substitution, wherein the amino acid positions correspond to human IgG1 according to the EU numbering system.

16. The bispecific antibody according to any one of claims 13-15, wherein the second antigen-binding region comprises the sequence set forth in SEQ ID NO:4, the first antigen-binding region comprises the sequence set forth in SEQ ID NO:8 and

wherein the first Fc polypeptide comprises the sequence set forth in SEQ ID NO: 11 and the second Fc polypeptide comprises the sequence set forth in SEQ ID NO: 12, or the first Fc polypeptide comprises the sequence set forth in SEQ ID NO: 12 and the second Fc polypeptide comprises the sequence set forth in SEQ ID NO: 11.

17. The bispecific antibody according to any one of claims 14-16, wherein the bispecific antibody comprises the sequences set forth in SEQ ID NO: 16 and SEQ ID NO: 17 or comprises the sequences set forth in SEQ ID NO: 16 and SEQ ID NO: 18.

18. A pharmaceutical composition comprising a bispecific antibody according to any one of claims 7-17 and a pharmaceutically-acceptable excipient.

19. Use of the bispecific antibody according to any one of claims 7-17 in the manufacture of a medicament for the treatment of cancer in a subject, wherein the bispecific antibody is to be administered to the subject.

20. A nucleic acid construct encoding the bispecific antibody according to any one of claims 7-17, an expression vector comprising said nucleic acid, or a host cell comprising one or more nucleic acid constructs encoding the bispecific antibody according to any one of claims 7-17.

21. A method of manufacturing the bispecific antibody according to any one of claims 7-17, comprising expressing one or more nucleic acids encoding the bispecific antibody in a host cell.
22. A process for manufacturing a bispecific antibody free of tyrosine sulfation, comprising expressing one or more nucleic acids encoding the bispecific antibody according to any one of claims 7-17 in a host cell, wherein the host cell preferably is a Chinese Hamster Ovary cell, a Human Embryonic Kidney cell, or a *Pichia pastoris* cell.
23. The bispecific antibody according to any one of claims 7-17 for use as a medicament.