

CLAIMS

1. A multivalent antibody which comprises:
 - a base antibody portion which comprises two binding domains; and
 - 5 - one additional binding domain,
 wherein the binding domains of the base antibody portion are Fab domains,
 wherein the additional binding domain is a Fab domain comprising a CH1 region and is
 connected to the base antibody portion by a linker linking a variable region of the base antibody
 portion and the CH1 region,
 - 10 wherein each binding domain of the base antibody portion and the additional binding
 domain all have a common light chain comprising VL-CL, and
 wherein the multivalent antibody binds to three different epitopes.
2. A multivalent antibody according to claim 1, wherein the linker comprises a hinge
 15 sequence or a sequence derived from a hinge sequence or a sequence derived from a hinge
 sequence.
3. A multivalent antibody according to claim 1 or 2, wherein the linker comprises a middle
 20 hinge region sequence or wherein the linker comprises an upper and a lower hinge sequence
4. A multivalent antibody according to any one of the preceding claims, wherein the linker
 comprises a sequence as set out in any one of SEQ ID NOs:1 to 24 or a polypeptide having at
 least about 85% sequence identity to any one thereto.
- 25 5. A multivalent antibody according to any one of the preceding claims, wherein the
 common light chain is a human light chain having a germline sequence.
6. A multivalent antibody according to any one of the preceding claims, wherein the
 common light chain comprises the amino acid sequences QSISSY (CDR1), AAS (CDR2), and
 30 QQSYSTP (CDR3), according to IMGT.
7. A multivalent antibody according to any one of the preceding claims, wherein the
 common light chain is the rearranged germline human kappa light chain IgVKI -39*01/IGJK1*01.
- 35 8. A multivalent antibody according to any one of the preceding claims, wherein the
 common light chain comprises the sequence of SEQ ID NO: 29.
9. A multivalent antibody according to any one of the preceding claims, wherein the base
 antibody portion is a full length immunoglobulin.

10. A multivalent antibody according to any one of the preceding claims, wherein the base portion of the antibody comprises a first CH3 domains that dimerizes with a second CH3 domain, the first of which comprises an amino acid residue lysine at positions 351 and 366 or at positions corresponding thereto and the second of which comprises the amino acid residues of aspartic acid at 351 and glutamic acid at 368 or at positions corresponding thereto.
11. A multivalent antibody according to any one of the preceding claims, wherein the additional binding domain is a Fab domain that comprises a CH1 of a different subclass compared to the CH1 of the base antibody portion.
12. A multivalent antibody according to any one of the preceding claims, wherein at least one of the binding domains specifically binds to an antigen on an immune effector cell.
13. A multivalent antibody according to claim 12, wherein the immune effector cell is a T cell.
14. A multivalent antibody according to claim 13, wherein the antigen on the said T cell is CD3.
15. A multivalent antibody according to any one of claims 12 to 14, wherein at least one of the binding domains specifically binds to an antigen on an aberrant cell.
16. A multivalent antibody according to any one of claims 1 to 11, wherein at least two binding domains specifically bind to an antigen on an aberrant cell.
17. A multivalent antibody according to any one of claims 12 to 15, wherein two binding domains specifically bind to two different antigens on an aberrant cell.
18. A multivalent antibody according to claim 16 or claim 17, wherein the at least two binding domains specifically bind to EGFR and PD-L1.
19. A multivalent antibody according to any one of claims 12 to 18, wherein a first binding domain specifically binds PD-L1; a second binding domain specifically binds CD3, and a third binding domain specifically binds to EGFR.
20. A multivalent antibody according to any one of claims 15 to 19, wherein the aberrant cell is a tumor cell.

21. A multivalent antibody according to any one of claims 12 to 20, wherein the base antibody comprises binding domains 1 and 2 and wherein the additional binding domain 3 is linked to binding domain 1.
- 5 22. The multivalent antibody according to claim 21, wherein:
- binding domain 1 is a CD3 binding domain and binding domains 2 and 3 bind to different target cell antigens;
 - binding domain 2 is a CD3 binding domain and binding domains 1 and 3 bind to different target cell antigens; or
 - 10 - binding domain 3 is a CD3 binding domain and binding domains 1 and 2 bind to different target cell antigens.
23. The multivalent antibody according to claim 21 or 22, wherein a first of said target cell antigen binding domain binds PD-L1, EGFR, CD137, CLEC12A, fibrinogen, or thyroglobulin.
- 15 24. The multivalent antibody according to any one of claims 21 to 23, wherein a first and a second of said target cell antigen binding domains bind different antigens selected from PD-L1, EGFR, CD137, CLEC12A fibrinogen, and thyroglobulin.
- 20 25. The multivalent antibody according to any one of claims 14 to 24, wherein the CD3 binding domain comprises a heavy chain variable region:
- comprising a CDR1 with the amino acid sequence of SEQ ID NO: 97, CDR2 with the amino acid sequence of SEQ ID NO: 98, and CDR3 with the amino acid sequence of SEQ ID NO: 99,
- 25 comprising a CDR1 with the amino acid sequence of SEQ ID NO: 106, CDR2 with the amino acid sequence of SEQ ID NO: 107, and CDR3 with the amino acid sequence of SEQ ID NO: 108,
- comprising a CDR1 with the amino acid sequence of SEQ ID NO: 115, CDR2 with the amino acid sequence of SEQ ID NO: 116, and CDR3 with the amino acid sequence of SEQ ID
- 30 NO: 117,
- comprising a CDR1 with the amino acid sequence of SEQ ID NO: 124, CDR2 with the amino acid sequence of SEQ ID NO: 125, and CDR3 with the amino acid sequence of SEQ ID NO: 126,
- comprising a CDR1 with the amino acid sequence of SEQ ID NO: 133, CDR2 with the amino acid sequence of SEQ ID NO: 134, and CDR3 with the amino acid sequence of SEQ ID
- 35 NO: 135,
- comprising a CDR1 with the amino acid sequence of SEQ ID NO: 142, CDR2 with the amino acid sequence of SEQ ID NO: 143, and CDR3 with the amino acid sequence of SEQ ID NO: 144 , or

comprising a CDR1 with the amino acid sequence of SEQ ID NO: 151, CDR2 with the amino acid sequence of SEQ ID NO: 152, and CDR3 with the amino acid sequence of SEQ ID NO: 153.

- 5 26. The multivalent antibody according to any one of claims 14 to 25, wherein the CD3 binding domain comprises a heavy chain variable region with the amino acid sequence of SEQ ID NO: 100, of SEQ ID NO: 109, of SEQ ID NO: 118, of SEQ ID NO: 127, of SEQ ID NO: 136, of SEQ ID NO: 145, or of SEQ ID NO: 154, with 0-10 amino acid insertions, deletions, substitutions, additions or a combination thereof at one or more positions other than the CDRs.
- 10 27. The multivalent antibody according to any one of claims 14 to 26, wherein a target cell antigen binding domain is a PD-L1 binding domain comprising:
 - a CDR1 with the amino acid sequence of SEQ ID NO: 160, CDR2 with the amino acid sequence of SEQ ID NO: 161, and CDR3 with the amino acid sequence of SEQ ID NO: 162,
 - 15 a CDR1 with the amino acid sequence of SEQ ID NO: 169, CDR2 with the amino acid sequence of SEQ ID NO: 170, and CDR3 with the amino acid sequence of SEQ ID NO: 171, or
 - a CDR1 with the amino acid sequence of SEQ ID NO: 178, CDR2 with the amino acid sequence of SEQ ID NO: 179, and CDR3 with the amino acid sequence of SEQ ID NO: 180.
- 20 28. The multivalent antibody according to any one of claims 14 to 27, wherein the PD-L1 binding domain comprises a heavy chain variable region with the amino acid sequence of the VH of SEQ ID NO: 163, SEQ ID NO: 172, or of SEQ ID NO: 181, with 0-10 amino acid insertions, deletions, substitutions, additions or a combination thereof at one or more positions other than the CDRs.
- 25 29. The multivalent antibody according to any one of claims 14 to 28, wherein a target cell antigen binding domain is a EGFR binding domain comprising:
 - a CDR1 with the amino acid sequence of SEQ ID NO: 187, SEQ ID NO:196, SEQ ID NO:205, SEQ ID NO:214, or SEQ ID NO:223,
 - 30 a CDR2 with the amino acid sequence of SEQ ID NO: 188, SEQ ID NO:197, SEQ ID NO:206, SEQ ID NO:215, or SEQ ID NO:224,
 - a CDR3 with the amino acid sequence of the SEQ ID NO: 189, SEQ ID NO:198, SEQ ID NO:207, SEQ ID NO:216 or SEQ ID NO:225.
- 35 30. The multivalent antibody according to any one of claims 14 to 29, wherein the EGFR binding domain comprises a heavy chain variable region with the amino acid sequence of SEQ ID NO: 190, of SEQ ID NO: 199, of SEQ ID NO: 208, of SEQ ID NO: 217, or of SEQ ID NO: 226, with 0-10 amino acid insertions, deletions, substitutions, additions or a combination thereof at one or more positions other than the CDRs.
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31. A pharmaceutical composition which comprises an antibody according to any one of claims 1 to 30 and a pharmaceutically acceptable carrier and/or diluent.