Claims

1. A monoclonal antibody or antigen-binding fragment thereof which binds to Nectin-4 comprising

(a) a variable heavy chain (VH) region comprising complementarity-determining regions (CDRs) CDR-H1, CDR-H2 and CDR-H3, wherein

(i) the CDR-H1 comprises an amino acid sequence according to SEQ ID NO: 7,

(ii) the CDR-H2 comprises an amino acid sequence according to SEQ ID NO: 8,

(iii) the CDR-H3 comprises an amino acid sequence according to SEQ ID NO: 9,

and

(b) a variable light chain (VL) region comprising complementarity-determining regions (CDRs) CDR-L1, CDR-L2 and CDR-L3, wherein

(i) the CDR-L1 comprises an amino acid sequence according to SEQ ID NO: 10,

(ii) the CDR-L2 comprises an amino acid sequence according to SEQ ID NO: 11,

(iii) the CDR-L3 comprises an amino acid sequence according to SEQ ID NO: 12.

2. The antibody or antigen-binding fragment of claim 1 comprising

(a) a VH region comprising an amino acid sequence according to SEQ ID NO: 13 or an amino acid sequence having an identity thereof of at least 85%, at least 90%, at least 95% or at least 99%, and

(b) a VL region, particularly a VL region comprising an amino acid sequence according to SEQ ID NO:14 or an amino sequence having an identity thereof of at least 85%, at least 90%, at least 95% or at least 99%.

3. The antibody or antigen-binding fragment of any one of claims 1 and 2, which is a chimeric antibody, a multispecific antibody, a bispecific antibody, a human antibody, a humanized antibody or an antigen-binding fragment thereof.

4. The antibody or antigen-binding fragment of any one of claims 1-3, which is an antibody of class IgG, of class IgM, of class IgA or an antigen-binding fragment thereof, or which is a single-chain antibody, or an antibody Fv fragment.

5. A human or humanized monoclonal antibody or antigen-binding fragment thereof which binds to Nectin-4 comprising

(a) (i) a VH region comprising an amino acid sequence according to SEQ ID NO: 27,
and
(ii) a VL region comprising an amino acid sequence according to SEQ ID NO: 28, or

(b) (i) a VH region comprising an amino acid sequence according to SEQ ID NO: 41,
and
(ii) a VL region comprising an amino acid sequence according to SEQ ID NO: 42, or

(c) (i) a VH region comprising an amino acid sequence according to SEQ ID NO: 55,
and
(ii) a VL region comprising an amino acid sequence according to SEQ ID NO: 56, or

(d) (i) a VH region comprising an amino acid sequence according to SEQ ID NO: 69,
and
(ii) a VL region comprising an amino acid sequence according to SEQ ID NO: 70 or 103, or

(e) (i) a VH region comprising an amino acid sequence according to SEQ ID NO: 41,
and

(ii) a VL region comprising an amino acid sequence according to SEQ ID NO: 56, or

(f) (i) a VH region comprising an amino acid sequence according to SEQ ID NO: 41,

and

(ii) a VL region comprising an amino acid sequence according to SEQ ID NO: 70 or 103, or

(g) (i) a VH region comprising an amino acid sequence according to SEQ ID NO: 55,

and

(ii) a VL region comprising an amino acid sequence according to SEQ ID NO: 70 or 103, or

(h) (i) a VH region comprising an amino acid sequence according to SEQ ID NO: 69,

and

(ii) a VL region comprising an amino acid sequence according to SEQ ID NO: 56.

6. The antibody or antigen-binding fragment of claim 4, wherein said antibody of class IgG, has a subclass selected from the group consisting of IgG1, IgG2, IgG3 and IgG4.

7. The antibody or antigen-binding fragment of any one of claims 1-6, wherein said antibody is a chimeric antibody or an antigen-binding fragment thereof.

8. The antibody or antigen-binding fragment of any one of claims 1-6, wherein said antibody is a humanized antibody or an antigen-binding fragment thereof.

9. The antibody or antigen-binding fragment of claim 6, wherein said antibody is an antibody of subclass IgG1 or an antigen-binding fragment thereof.

10. The antibody or antigen-binding fragment of claim 6, wherein said antibody is an antibody of subclass IgG2 or an antigen-binding fragment thereof.

11. The antibody or antigen-binding fragment of claim 6, wherein said antibody is an antibody of subclass IgG3 or an antigen-binding fragment thereof.

12. The antibody or antigen-binding fragment of claim 6, wherein said antibody is an antibody of subclass IgG4 or an antigen-binding fragment thereof.

13. A pharmaceutical composition comprising an antibody or antigen-binding fragment thereof according to any of claims 1-12.

14. A composition comprising the antibody or fragment of any one of claims 1-12 in combination with a carrier or excipient suitable for use in medicine.

15. Use of the antibody or fragment of any one of claims 1-12 or the composition of claim 13 or 14 in the manufacture of a medicament for treating or preventing cancer associated with Nectin-4 overexpression in a subject in need thereof.

16. The use of claim 15, wherein the subject is suffering from or likely to suffer from cancer associated with Nectin-4 overexpression.

17. A nucleic acid coding for one or more antibodies according to any one claims 1-12, or for at least one VL and/or one VH of said antibodies.

18. A vector comprising the nucleic acid according to claim 17.

19. A host cell comprising the vector of claim 18.

20. A method of *in vitro* diagnosis, the method comprising use of the antibody or fragment of any one of claims 1-12 or the composition of claim 14.

21. Use of the antibody or fragment of claim 1-12 or the composition of claim 14, in *in vitro* diagnosis.