

One aspect as reported herein is an antibody that specifically binds to human ANG2, wherein the antibody comprises a HVR-H1 comprising the amino acid sequence of SEQ ID NO: 20, a HVR-H2 comprising the amino acid sequence of SEQ ID NO: 21, and a HVR-H3 comprising the amino acid sequence of SEQ ID NO: 23; and a HVR-L1 comprising the amino acid sequence of SEQ ID NO: 25; a HVR-L2 comprising the amino acid sequence of SEQ ID NO: 26; and (c) HVR-L3 comprising the amino acid sequence of SEQ ID NO: 27; wherein the antibody comprises a heavy chain variable domain of more than 95% amino acid sequence identity to SEQ ID NO: 19 and a light chain variable domain of more than 95% amino acid sequence identity to SEQ ID NO: 6.

In one embodiment the antibody further comprises (a) a HVR-L1 comprising the amino acid sequence of SEQ ID NO: 25; (b) a HVR-L2 comprising the amino acid sequence of SEQ ID NO: 26; and (c) HVR-L3 comprising the amino acid sequence of SEQ ID NO: 27.

As reported herein is an antibody that specifically binds to human ANG2, wherein the antibody comprises (a) a HVR-H1 comprising the amino acid sequence of SEQ ID NO: 29, (b) a HVR-H2 comprising the amino acid sequence of SEQ ID NO: 30, and (c) a HVR-H3 comprising the amino acid sequence of SEQ ID NO: 32.

In one embodiment the antibody further comprises (a) a HVR-L1 comprising the amino acid sequence of SEQ ID NO: 34; (b) a HVR-L2 comprising the amino acid sequence of SEQ ID NO: 35; and (c) HVR-L3 comprising the amino acid sequence of SEQ ID NO: 36.

As reported herein is an antibody that specifically binds to human ANG2, wherein the antibody comprises (a) a HVR-H1 comprising the amino acid sequence of SEQ ID NO: 38, (b) a HVR-H2 comprising the amino acid sequence of SEQ ID NO: 39, and (c) a HVR-H3 comprising the amino acid sequence of SEQ ID NO: 41.

In one embodiment the antibody further comprises (a) a HVR-L1 comprising the amino acid sequence of SEQ ID NO: 43; (b) a HVR-L2 comprising the amino acid sequence of SEQ ID NO: 44; and (c) HVR-L3 comprising the amino acid sequence of SEQ ID NO: 45.

As reported herein is the antibody as reported herein for the treatment of vascular diseases.

As reported herein is a pharmaceutical composition for the treatment of vascular diseases.

5 As reported herein is the use of an antibody as reported herein for the manufacture of a medicament. The medicament may be for the treatment of vascular diseases. One aspect as reported herein is the use of an antibody as reported herein for the manufacture of a medicament for the treatment of a vascular disease, cancer, an ocular vascular disease, macular degeneration or for the prevention of metastasis.

10 As reported herein is a method of treatment of a patient suffering from a vascular disease by administering an antibody as reported herein to a patient in the need of such treatment.

As reported herein is the antibody as reported herein for use in treating a vascular disease, preferably for use in treating cancer.

15 One embodiment is the antibody as reported herein for the treatment of cancer.

As reported herein is for use as a medicament for use in the treatment of cancer.

As reported herein is the use of an antibody as reported herein for the manufacture of a medicament for the treatment of cancer.

20 As reported herein is a method of treatment of a patient suffering from cancer by administering an antibody as reported herein to a patient in the need of such treatment.

As reported herein is for use as a medicament for the prevention of metastasis.

As reported herein is the use of an antibody as reported herein for the manufacture of a medicament for the prevention of metastasis.

25 As reported herein is a method of prevention of metastasis in a patient suffering from primary cancer by administering an antibody as reported herein to a patient in the need of such preventive treatment.

As reported herein is the antibody as reported herein for use in treating an ocular vascular disease, preferably for use in treating macular degeneration.

Patent Claims

1. An antibody that specifically binds to human ANG2, wherein the antibody comprises a HVR-H1 comprising the amino acid sequence of SEQ ID NO: 20, a HVR-H2 comprising the amino acid sequence of SEQ ID NO: 21, and a HVR-H3 comprising the amino acid sequence of SEQ ID NO: 23;
5 and a HVR-L1 comprising the amino acid sequence of SEQ ID NO: 25; a HVR-L2 comprising the amino acid sequence of SEQ ID NO: 26; and (c) HVR-L3 comprising the amino acid sequence of SEQ ID NO: 27; wherein the antibody comprises a heavy chain variable domain of more than 95% amino acid sequence identity to SEQ ID NO: 19 and a light chain variable
10 domain of more than 95% amino acid sequence identity to SEQ ID NO: 6.
2. The antibody according to claim 1, wherein the antibody comprises a heavy chain variable domain that has the amino acid sequence of SEQ ID NO: 19 and a light chain variable domain that has the amino acid sequence of SEQ ID NO: 6

3. The antibody according to any one of claims 1 to 2, wherein the antibody is a bispecific antibody.
4. The antibody according to claim 3, wherein the bispecific antibody comprises
 - 5 a) a first light chain and a first heavy chain of an antibody specifically binding to a first antigen, and
 - b) a second light chain and a second heavy chain of an antibody specifically binding to a second antigen, wherein the constant domains CL and CH1 of the second light chain and the second heavy chain are replaced by each other,
- 10 wherein either the first antigen or the second antigen is human ANG2.
5. The antibody according to claim 4, wherein the antibody is a bivalent antibody.
6. The antibody according to any one of claims 1 to 5, wherein the antibody is of the human subclass IgG1 or the human subclass IgG4.
- 15 7. The antibody according to claim 6, comprising CH3 domains that are altered to increase the heterodimerization of both heavy chains containing these two CH3 domains, wherein one CH3 domain comprises a T366W mutation and the other CH3 domain comprises T366S, L368A, Y407V mutations,
- 20 wherein all numberings are according to the Kabat EU index.

8. The antibody according to claim 6, comprising CH3 domains that are altered to increase the heterodimerization of both heavy chains containing these two CH3 domains, wherein one CH3 domain comprises Y349C and T366W mutations and the other CH3 domain comprises E356C, T366S,
5 L368A and Y407V mutations, wherein all numberings are according to the Kabat EU index.
9. A pharmaceutical formulation comprising an antibody according to any one of claims 1 to 8 and optionally a pharmaceutically acceptable carrier.
10. The antibody according to any one of claims 1 to 8 for use as a
10 medicament.
11. Use of the antibody according to any one of claims 1 to 8 in the manufacture of a medicament for the treatment of a vascular disease, cancer, an ocular vascular disease, macular degeneration or for the prevention of metastasis.