What is claimed is:

1. An isolated human antibody or antigen-binding fragment thereof that specifically binds human angiopoietin-2 (hAng-2) but does not substantially bind hAng-1.

2. The isolated antibody or antigen-binding fragment of claim 1, wherein the antibody or antigen-binding fragment binds an epitope on hAng-2 (SEQ ID NO:518) comprising at least one amino acid selected from F-469, Y-475, and S-480.

3. The isolated antibody or antigen binding fragment of claim 2, wherein the antibody or antigen-binding fragment binds an epitope on hAng-2 comprising amino acids F-469, Y-475, and S-480.

4. The isolated antibody or antigen-binding fragment of any one of claims 1 to 3, wherein the antibody or antigen-binding fragment binds hAng-2 with a K_D of less than about 80 pM, less than about 40 pM, less than about 20 pM, or less than about 10 pM, as measured in a surface plasmon resonance assay.

5. The isolated antibody or antigen-binding fragment of any one of claims 1 to 4, wherein the antibody or antigen-binding fragment binds hAng-1 with a K_D of greater than about 1 nM, greater than about 10 nM, greater than about 50 nM, or greater than about 100 nM, as measured in a surface plasmon resonance assay.

6. The isolated antibody or antigen-binding fragment of any one of claims 1 to 4, wherein the antibody or antigen-binding fragment does not exhibit any binding to hAng-1 when tested in a surface plasmon resonance assay.

7. The isolated antibody or antigen-binding fragment of claim 2, wherein the antibody or antigen-binding fragment: (a) binds an epitope on hAng-2 comprising amino acids F-469, Y-475, and S-480; (b) binds hAng-2 with a K_D of less than about 80 pM as measured in a surface plasmon resonance assay; and (c) does not exhibit any binding to hAng-1 when tested in a surface plasmon resonance assay.

8. The isolated antibody or antigen-binding fragment of any one of claims 1 to 7, wherein the antibody or antigen-binding fragment comprises the complementarity determining regions (CDRs) of a heavy chain variable region (HCVR) having the amino acid sequence of SEQ ID NO:18, and the CDRs of a light chain variable region (LCVR) having the amino acid sequence of SEQ ID NO:20.

9. The isolated antibody or antigen-binding fragment of claim 8, wherein the antibody or antigen-binding fragment comprises a heavy chain CDR-1 (HCDR1) having the amino acid sequence of SEQ ID NO:4, an HCDR-2 having the amino acid sequence of SEQ ID NO:6, an

HCDR-3 having the amino acid sequence of SEQ ID NO:8, a light chain CDR-1 (LCDR-1) having the amino acid sequence of SEQ ID NO:12, an LCDR-2 having the amino acid sequence of SEQ ID NO:14, and an LCDR-3 having the amino acid sequence of SEQ ID NO:16.

10. The isolated antibody or antigen-binding fragment of any one of claims 1 to 9, wherein the antibody or antigen-binding fragment comprises a HCVR having the amino acid sequence of SEQ ID NO:18 and a LCVR having the amino acid sequence of SEQ ID NO:20.

11. The isolated antibody or antigen-binding fragment of any one of claims 1 to 10, wherein the antibody or antigen-binding fragment blocks the binding of hAng-2 to hTie-2 but does not substantially block the binding of hAng-1 to hTie-2.

12. A pharmaceutical composition comprising the antibody or antigen-binding fragment of any one of claims 1 to 11 and a pharmaceutically acceptable carrier or diluent.

13. The pharmaceutical composition of claim 12, wherein the antibody or antigen-binding fragment comprises the complementarity determining regions (CDRs) of a heavy chain variable region (HCVR) having the amino acid sequence of SEQ ID NO:18, and the CDRs of a light chain variable region (LCVR) having the amino acid sequence of SEQ ID NO:20.

14. The pharmaceutical composition of claim 12 or 13, further comprising a VEGF antagonist.

15. The pharmaceutical composition of claim 14, wherein the VEGF antagonist is selected from an anti-VEGF antibody, a small molecule kinase inhibitor of VEGF receptor and a VEGF-inhibiting fusion protein.

16. An isolated human antibody or antigen-binding fragment thereof that binds to the same epitope on hAng-2 as an antibody which comprises the complementarity determining regions (CDRs) of a heavy chain variable region (HCVR) having the amino acid sequence of SEQ ID NO:18, and the CDRs of a light chain variable region (LCVR) having the amino acid sequence of SEQ ID NO:20.

17. An isolated human antibody or antigen-binding fragment thereof that competes for binding to hAng-2 with an antibody which comprises the complementarity determining regions (CDRs) of a heavy chain variable region (HCVR) having the amino acid sequence of SEQ ID NO:18, and the CDRs of a light chain variable region (LCVR) having the amino acid sequence of SEQ ID NO:20.

18. The isolated antibody or antigen-binding fragment of any one of claims 1 to 11 or 16 to 17 for use in treating a patient having a tumor.

19. The isolated antibody or antigen-binding fragment of any one of claims 1 to 11 or 16 to 17 for use in treating a patient having hypertension, diabetes, asthma, sepsis, kidney disease, edema or an eye disease.

20. Use of the isolated antibody or antigen-binding fragment of any one of claims 1 to 11 or 16 to 17 in the manufacture of a medicament for use in treating a patient having a tumor.

21. Use of the isolated antibody or antigen-binding fragment of any one of claims 1 to 11 or 16 to 17 in the manufacture of a medicament for use in treating a patient having hypertension, diabetes, asthma, sepsis, kidney disease, edema or an eye disease.

22. A method for treating a tumor, the method comprising administering to a patient in need of such treatment an isolated antibody or antigen-binding fragment thereof as set forth in any one of claims 1 to 11 or 16 to 17.

23. A method for treating a disease or disorder selected from hypertension, diabetes, asthma, sepsis, kidney disease, edema and eye disease, said method comprising administering to a patient in need of such treatment an isolated antibody or antigen-binding fragment thereof as set forth in any one of claims 1 to 11 or 16 to 17.

What is claimed is:

1. An isolated antibody or antigen-binding fragment thereof that:

(a) binds to the same epitope on hAng-2 as an antibody which comprises the complementarity determining regions (CDRs) of a heavy chain variable region (HCVR) having the amino acid sequence of SEQ ID NO:18, and the CDRs of a light chain variable region (LCVR) having the amino acid of SEQ ID NO:20; or

(b) competes for binding to hAng-2 with an antibody which comprises the complementarity determining regions (CDRs) of a heavy chain variable region (HCVR) having the amino acid sequence of SEQ ID NO:18, and the CDRs of a light chain variable region (LCVR) having the amino acid sequence of SEQ ID NO:20.

2. The isolated antibody or antigen-binding fragment of claim 1, wherein the antibody or antigen-binding fragment binds an epitope on hAng-2 (SEQ ID NO:518) comprising:

(a) at least one amino acid selected from F-469, Y-475, and S-480; or

(b) amino acids F-469, Y-475, and S-480.

3. The isolated antibody or antigen-binding fragment of claim 1 or 2, wherein the antibody or antigen-binding fragment binds hAng-2 with a K_D of less than about 80 pM, less than about 40 pM, less than about 20 pM, or less than about 10 pM, as measured in a surface plasmon resonance assay.

4. The isolated antibody or antigen-binding fragment of any one of claims 1 to 3, wherein the antibody or antigen-binding fragment:

(a) binds hAng-1 with a K_D of greater than about 1 nM, greater than about 10 nM, greater than about 50 nM, or greater than about 100 nM, as measured in a surface plasmon resonance assay; or

(b) does not exhibit any binding to hAng-1 when tested in a surface plasmon resonance assay.

5. The isolated antibody or antigen-binding fragment of claim 2, part (a), wherein the antibody or antigen-binding fragment:

(a) binds an epitope on hAng-2 comprising amino acids F-469, Y-475, and S-480;

(b) binds hAng-2 with a K_D of less than about 80 pM as measured in a surface plasmon resonance assay; and

(c) does not exhibit any binding to hAng-1 when tested in a surface plasmon resonance assay.

6. The isolated antibody or antigen-binding fragment of any one of claims 1 to 5, wherein the antibody or antigen-binding fragment comprises the complementarity determining regions (CDRs) of a heavy chain variable region (HCVR) having the amino acid sequence of SEQ ID NO:18, and the CDRs of a light chain variable region (LCVR) having the amino acid sequence of SEQ ID NO:20.

7. The isolated antibody or antigen-binding fragment of claim 6, wherein the antibody or antigen-binding fragment comprises

- a heavy chain CDR-1 (HCDR1) having the amino acid sequence of SEQ ID NO:4, an HCDR-2 having the amino acid sequence of SEQ ID NO:6, an HCDR-3 having the amino acid sequence of SEQ ID NO:8, and

- a light chain CDR-1 (LCDR-1) having the amino acid sequence of SEQ ID NO:12, an LCDR-2 having the amino acid sequence of SEQ ID NO:14, and an LCDR-3 having the amino acid sequence of SEQ ID NO:16.

8. The isolated antibody or antigen-binding fragment of any one of claims 1 to 7, wherein the antibody or antigen-binding fragment comprises a HCVR having the amino acid sequence of SEQ ID NO:18 and a LCVR having the amino acid sequence of SEQ ID NO:20.

9. The isolated antibody or antigen-binding fragment of any one of claims 1 to 8, wherein the antibody or antigen-binding fragment blocks the binding of hAng-2 to hTie-2 but does not substantially block the binding of hAng-1 to hTie-2.

10. A pharmaceutical composition comprising the antibody or antigen-binding fragment of any one of claims 1 to 9 and a pharmaceutically acceptable carrier or diluent.

11. The pharmaceutical composition of claim 10, wherein the antibody or antigen-binding fragment comprises the complementarity determining regions (CDRs) of a heavy chain variable region (HCVR) having the amino acid sequence of SEQ ID NO:18, and the CDRs of a light chain variable region (LCVR) having the amino acid sequence of SEQ ID NO:20.

12. The pharmaceutical composition of claim 10 or 11 further comprising a VEGF antagonist.

13. The pharmaceutical composition of claim 12, wherein the VEGF antagonist is selected from the group consisting of an anti-VEGF antibody, a small molecule kinase inhibitor of VEGF receptor and a VEGF-inhibiting fusion protein.

14. The isolated antibody or antigen-binding fragment of any one of claims 1 to 9 for use in treating a patient having:

(a) a tumor; or

(b) an eye disease.

15. Use of the isolated antibody or antigen-binding fragment of any one of claims 1 to 9 in the manufacture of a medicament for use in treating a patient having:

(a) a tumor; or

(b) an eye disease.

16. A method for treating a patient having a tumor or an eye disease, the method comprising administering to said patient a therapeutically effective amount of an isolated antibody or antigen-binding fragment thereof according to any one of claims 1 to 9 or a pharmaceutical composition according to any one of claims 10 to 13.

17. An isolated human antibody or antigen-binding fragment thereof according to claim 1 substantially as hereinbefore described with reference to the Examples.