What is claimed is:

1. An isolated antibody or antigen-binding fragment thereof that specifically binds human Tie2 and blocks the interaction between Tie2 and a Tie2 ligand.

2. The isolated antibody or antigen-binding fragment of claim 1, wherein the Tie2 ligand is selected from the group consisting of Ang1, Ang2, Ang3 and Ang4.

3. The isolated antibody or antigen-binding fragment of claim 1, wherein antibody or antigen-binding fragment thereof blocks the interaction between Tie2 and all four of Ang1, Ang2, Ang3 and Ang4.

4. The isolated antibody or antigen-binding fragment of any one of claims 1 to 3, wherein the antibody or antigen-binding fragment thereof specifically binds a polypeptide consisting of Ig1-Ig2-EGF domains of human Tie2 (SEQ ID NO:7), or a polypeptide consisting of Ig2-EGF domains of human Tie2 (SEQ ID NO:8).

5. The antibody or antigen-binding fragment of any one of claims 1 to 4, wherein the antibody or antigen-binding fragment interacts with one or more amino acids located within one or more amino acid segments selected from the group consisting of amino acids 96-106 of SEQ ID NO:7, amino acids 139-152 of SEQ ID NO:7; and amino acids 166-175 of SEQ ID NO:7.

6. The antibody or antigen-binding fragment of claim 5, wherein the antibody or antigen-binding fragment interacts with amino acids 96-106 of SEQ ID NO:7, amino acids 139-152 of SEQ ID NO:7; and amino acids 166-175 of SEQ ID NO:7, as determined by hydrogen/deuterium exchange.

7. The isolated antibody or antigen-binding fragment of any one of claims 1 to 6, wherein the antibody or antigen-binding fragment thereof specifically binds a rodent Tie2 and human Tie2.

8. The isolated antibody or antigen-binding fragment of claim 7, wherein the rodent Tie2 is mouse Tie2 or rat Tie2.

9. The isolated antibody or antigen-binding fragment of any one of claims 1 to 6 wherein the antibody or antigen-binding fragment thereof specifically binds human, mouse and rat Tie2.

10. The isolated antibody or antigen-binding fragment of any one of claims 1 to 9, wherein the antibody or antigen-binding fragment thereof is produced from a cell line deposited with the American Type Culture Collection under accession number PTA-12295 or PTA-12296.

11. An isolated antibody or antigen-binding fragment thereof that binds the same epitope on human Tie2 as the antibody produced from a cell line deposited with the American Type Culture Collection under accession number PTA-12295 or PTA-12296.

12. An isolated antibody or antigen-binding fragment thereof that competes for binding to human Tie2 with an antibody produced from a cell line deposited with the American Type Culture Collection under accession number PTA-12295 or PTA-12296.

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

14. A pharmaceutical composition for use in inhibiting the growth of a tumor in a patient, the pharmaceutical composition comprising an antibody or antigen-binding fragment thereof that specifically binds human Tie2 and blocks the interaction between Tie2 and a Tie2 ligand.

15. The pharmaceutical composition of claim 14, wherein the Tie2 ligand is selected from the group consisting of Ang1, Ang2, Ang3 and Ang4.

16. The pharmaceutical composition of claim 14, wherein antibody or antigen-binding fragment thereof blocks the interaction between Tie2 and all four of Ang1, Ang2, Ang3 and Ang4.

17. The pharmaceutical composition of claim 14, wherein the antibody or antigen-binding fragment thereof is produced from a cell line deposited with the American Type Culture Collection under accession number PTA-12295 or PTA-12296.

18. The pharmaceutical composition of claim 14, wherein the antibody or antigen-binding fragment thereof binds the same epitope on human Tie2 as the antibody produced from a cell line deposited with the American Type Culture Collection under accession number PTA-12295 or PTA-12296.

19. The pharmaceutical composition of claim 14, wherein the antibody or antigen-binding fragment thereof competes for binding to human Tie2 with an antibody produced from a cell line deposited with the American Type Culture Collection under accession number PTA-12295 or PTA-12296.

20. A method for inhibiting the growth of a tumor in a patient, the method comprising administering to the patient a pharmaceutical composition comprising an antibody or antigen-binding fragment thereof that specifically binds human Tie2 and blocks the interaction between Tie2 and a Tie2 ligand.

What is claimed is:

1. An isolated antibody or antigen-binding fragment thereof that specifically binds human Tie2 and blocks the interaction between Tie2 and all four of angiopoietin-1 (Ang1), Ang2, Ang3 and Ang4, wherein the antibody or antigen-binding fragment interacts with amino acids 96-106 of SEQ ID NO:7, amino acids 139-152 of SEQ ID NO:7; and amino acids 166-175 of SEQ ID NO:7, as determined by hydrogen/deuterium exchange.

2. The isolated antibody or antigen-binding fragment of claim 1, wherein the antibody or antigen-binding fragment thereof specifically binds a rodent Tie2 and human Tie2.

3. The isolated antibody or antigen-binding fragment of claim 2, wherein the rodent Tie2 is mouse Tie2 or rat Tie2.

4. The isolated antibody or antigen-binding fragment of claim 1, wherein the antibody or antigen-binding fragment thereof specifically binds human, mouse and rat Tie2.

5. The isolated antibody or antigen-binding fragment of claim 1, wherein the antibody or antigen-binding fragment thereof is a human antibody having the variable regions of an antibody produced from a cell line deposited with the American Type Culture Collection under accession number PTA-12295.

6. A pharmaceutical composition comprising the antibody or antigen-binding fragment of claim 1 and a pharmaceutically acceptable carrier or diluent.

7. An isolated antibody or antigen-binding fragment thereof that binds the same epitope on human Tie2 as the antibody produced from a cell line deposited with the American Type Culture Collection under accession number PTA-12295 or PTA-12296.

8. A pharmaceutical composition comprising the antibody or antigen-binding fragment of claim 7 and a pharmaceutically acceptable carrier or diluent.

9. An isolated antibody or antigen-binding fragment thereof that competes for binding to human Tie2 with an antibody produced from a cell line deposited with the American Type Culture Collection under accession number PTA-12295 or PTA-12296.

10. A pharmaceutical composition comprising the antibody or antigen-binding fragment of claim 9 and a pharmaceutically acceptable carrier or diluent.