What we claim is:

1. An isolated monoclonal antibody that specifically binds one or more human frizzled receptors selected from the group consisting of FZD1, FZD2, FZD5, FZD7, and FZD8, wherein the antibody comprises:

(a) a heavy chain CDR1 comprising GFTFSHYTLS (SEQ ID NO:1); a heavy chain CDR2 comprising VISGDGSYTYYADSVKG (SEQ ID NO:2); and a heavy chain CDR3 comprising NFIKYVFAN (SEQ ID NO:3); and

(b) a light chain CDR1 comprising SGDNIGSFYVH (SEQ ID NO:7); a light chain CDR2 comprising DKSNRPSG (SEQ ID NO:8); and a light chain CDR3 comprising QSYANTLSL (SEQ ID NO:9); or a light chain CDR1 comprising SGDKLGKKYAS (SEQ ID NO:4); a light chain CDR2 comprising EKDNRPSG (SEQ ID NO:5); and a light chain CDR3 comprising SSFAGNSLE (SEQ ID NO:6).

2. The antibody of claim 1, which comprises a light chain CDR1 comprising SGDNIGSFYVH (SEQ ID NO:7), a light chain CDR2 comprising DKSNRPSG (SEQ ID NO:8), and a light chain CDR3 comprising QSYANTLSL (SEQ ID NO:9).

3. The antibody of claim 1, which comprises a light chain CDR1 comprising SGDKLGKKYAS (SEQ ID NO:4); a light chain CDR2 comprising EKDNRPSG (SEQ ID NO:5); and a light chain CDR3 comprising SSFAGNSLE (SEQ ID NO:6).

4. The antibody of claim 1, wherein said antibody comprises:

(a) a polypeptide having at least about 80% sequence identity to SEQ ID NO:10; and

(b) a polypeptide having at least about 80% sequence identity to SEQ ID NO:14 or SEQ ID NO:12.

5. The antibody of claim 4, which comprises:

(a) a polypeptide having the amino acid sequence of SEQ ID NO:10; and

(b) a polypeptide having the amino acid sequence of SEQ ID NO:14.

6. An isolated monoclonal antibody that specifically binds one or more human frizzled receptors selected from the group consisting of FZD1, FZD2, FZD5, FZD7, and FZD8, wherein the antibody:

(a) binds at least part of a sequence Q(DE/ED)AGLEVHQF(Y/W)PL (SEQ ID NO:24)

within the human frizzled receptor(s); and/or

(b) binds at least part of a sequence (K/Q)(F/Y)GF(Q/A) (SEQ ID NO:69) within the human frizzled receptor(s).

7. The antibody of claim 6, which binds at least part of a sequence GLEVHQ (SEQ ID NO: 25); and/or binds at least part of a sequence QYGFA (SEQ ID NO:66) within the human frizzled receptor(s).

8. The antibody of claim 6, wherein the human frizzled receptor is FZD8 and the antibody binds at least part of:

(a) a conformational epitope formed by amino acids 72(F), 74-75(PL), 78(I), 92(Y), 121-122(LM), and 129-132(WPDR);

(b) a region consisting of the sequence QDEAGLEVHQFWPL (SEQ ID NO:67); and/or

(c) a region consisting of the sequence QYGFA (SEQ ID NO:66).

9. The antibody of any one of claims 6-8, wherein the antibody comprises:

(a) a heavy chain CDR1 comprising GFTFSHYTLS (SEQ ID NO:1); a heavy chain CDR2 comprising VISGDGSYTYYADSVKG (SEQ ID NO:2); and a heavy chain CDR3 comprising NFIKYVFAN (SEQ ID NO:3); and

(b) a light chain CDR1 comprising SGDNIGSFYVH (SEQ ID NO:7); a light chain CDR2 comprising DKSNRPSG (SEQ ID NO:8); and a light chain CDR3 comprising QSYANTLSL (SEQ ID NO:9); or a light chain CDR1 comprising SGDKLGKKYAS (SEQ ID NO:4); a light chain CDR2 comprising EKDNRPSG (SEQ ID NO:5); and a light chain CDR3 comprising SSFAGNSLE (SEQ ID NO:6).

10. The antibody of any one of claims 1-9, which specifically binds FZD1, FZD2, FZD5, FZD7, and FZD8.

11. A monoclonal antibody that specifically binds a human frizzled receptor, wherein the antibody binds to at least part of the Biological Binding Site (BBS) within the human frizzled receptor.

12. A monoclonal antibody that competes for specific binding to human FZD1, FZD2, FZD5, FZD7, and/or FZD8 with a second antibody in a competitive binding assay, wherein the second antibody comprises a heavy chain variable region comprising SEQ ID NO:10 and a light chain variable

region comprising SEQ ID NO:14 or SEQ ID NO:12.

13. The antibody of any one of claims 1-12 which is a humanized antibody, a human antibody, an IgG1 antibody, or an IgG2 antibody, or an antibody fragment.

14. The antibody of claim 1 encoded by the sequence of a plasmid deposited with the ATCC as accession number PTA-9541, PTA-9540, PTA-10307, PTA-10309, or PTA-10311.

15. The antibody of any one of claims 1-14, which is conjugated to a cytotoxic agent.

16. An isolated cell producing the antibody of any one of claims 1-15.

17. A pharmaceutical composition comprising the antibody of any one of claims 1-15 and a pharmaceutically acceptable vehicle.

18. Use of the antibody of any one of claims 1-15, in the manufacture of a medicament for the treatment of cancer.

19. The antibody of any one of claims 1-15, for use as a medicament.

20. Use of the antibody of any one of claims 1-15, in the manufacture of a medicament for inhibiting tumor growth.

21. The use of the antibody of claim 18 or 20, wherein the treatment of cancer or inhibiting tumor growth comprises the administration of a second anti-cancer agent.

22. The use of the antibody of claim 21, wherein the second anti-cancer agent is a chemotherapeutic agent, an angiogenesis inhibitor, an inhibitor of Notch signaling, an anti-Notch antibody, or an anti-Notch ligand antibody.

23. An isolated polypeptide comprising a sequence selected from the group consisting of SEQ ID NOs: 10-15.

24. An isolated polynucleotide comprising:

(a) a polynucleotide encoding the antibody of any one of claims 1-15 or the polypeptide of claim 23; or

(b) a sequence selected from the group consisting of SEQ ID NOs:17-22, 87-90, 92, and 94-95.

25. A vector comprising the polynucleotide of claim 24.

What we claim is:

1. An isolated antibody that specifically binds one or more human frizzled receptors selected from the group consisting of FZD1, FZD2, FZD5, FZD7, and FZD8, wherein the antibody comprises:
(a) a heavy chain CDR1 comprising GFTFSHYTLS (SEQ ID NO:1); a heavy chain CDR2 comprising VISGDGSYTYYADSVKG (SEQ ID NO:2); and a heavy chain CDR3 comprising NFIKYVFAN (SEQ ID NO:3); and
(b) a light chain CDR1 comprising SGDNIGSFYVH (SEQ ID NO:7); a light chain CDR2 comprising DKSNRPSG (SEQ ID NO:8); and a light chain CDR3 comprising QSYANTLSL (SEQ ID NO:9); or a light chain CDR1 comprising SGDKLGKKYAS (SEQ ID NO:4); a light chain CDR2 comprising EKDNRPSG (SEQ ID NO:5); and a light chain CDR3 comprising SSFAGNSLE (SEQ ID NO:6).

2. The antibody of claim 1, which comprises a light chain CDR1 comprising SGDNIGSFYVH (SEQ ID NO:7), a light chain CDR2 comprising DKSNRPSG (SEQ ID NO:8), and a light chain CDR3 comprising QSYANTLSL (SEQ ID NO:9).

3. The antibody of claim 1, which comprises a light chain CDR1 comprising SGDKLGKKYAS (SEQ ID NO:4); a light chain CDR2 comprising EKDNRPSG (SEQ ID NO:5); and a light chain CDR3 comprising SSFAGNSLE (SEQ ID NO:6).

4. An isolated antibody that specifically binds one or more human frizzled receptors selected from the group consisting of FZD1, FZD2, FZD5, FZD7, and FZD8, wherein said antibody comprises:
(a) a polypeptide having at least about 80% sequence identity to SEQ ID NO:10; and
(b) a polypeptide having at least about 80% sequence identity to SEQ ID NO:14 or SEQ ID NO:12.

5. The antibody of claim 4, which comprises:
(a) a polypeptide having the amino acid sequence of SEQ ID NO:10; and
(b) a polypeptide having the amino acid sequence of SEQ ID NO:14.

6. An isolated antibody that specifically binds one or more human frizzled receptors selected from the group consisting of FZD1, FZD2, FZD5, FZD7, and FZD8, wherein the antibody:
(a) binds at least part of a sequence Q(DE/ED)AGLEVHQF(Y/W)PL (SEQ ID NO:24) within the human frizzled receptor(s); and/or

(b) binds at least part of a sequence (K/Q)(F/Y)GF(Q/A) (SEQ ID NO:69) within the human frizzled receptor(s).

7. The antibody of claim 6, which binds at least part of a sequence GLEVHQ (SEQ ID NO: 25); and/or binds at least part of a sequence QYGFA (SEQ ID NO:66) within the human frizzled receptor(s).

8. The antibody of claim 6, wherein the human frizzled receptor is FZD8 and the antibody binds at least part of:

(a) a conformational epitope formed by amino acids 72(F), 74-75(PL), 78(I), 92(Y), 121-122(LM), and 129-132(WPDR);

(b) a region consisting of the sequence QDEAGLEVHQFWPL (SEQ ID NO:67); and/or

(c) a region consisting of the sequence QYGFA (SEQ ID NO:66).

9. The antibody of any one of claims 6-8, wherein the antibody comprises:

(a) a heavy chain CDR1 comprising GFTFSHYTLS (SEQ ID NO:1); a heavy chain CDR2 comprising VISGDGSYTYYADSVKG (SEQ ID NO:2); and a heavy chain CDR3 comprising NFIKYVFAN (SEQ ID NO:3); and

(b) a light chain CDR1 comprising SGDNIGSFYVH (SEQ ID NO:7); a light chain CDR2 comprising DKSNRPSG (SEQ ID NO:8); and a light chain CDR3 comprising QSYANTLSL (SEQ ID NO:9); or a light chain CDR1 comprising SGDKLGKKYAS (SEQ ID NO:4); a light chain CDR2 comprising EKDNRPSG (SEQ ID NO:5); and a light chain CDR3 comprising SSFAGNSLE (SEQ ID NO:6).

10. The antibody of any one of claims 1-9, which specifically binds FZD1, FZD2, FZD5, FZD7, and FZD8.

11. An antibody that specifically binds a human frizzled receptor, wherein the antibody binds to at least part of the Biological Binding Site (BBS) within the human frizzled receptor.

12. An antibody that competes for specific binding to human FZD1, FZD2, FZD5, FZD7, and/or FZD8 with a second antibody in a competitive binding assay, wherein the second antibody comprises a heavy chain variable region comprising SEQ ID NO:10 and a light chain variable region comprising SEQ ID NO:14 or SEQ ID NO:12.

13. An antibody that competes for specific binding to human FZD1, FZD2, FZD5, FZD7, and/or FZD8 with 18R5, 18R8, 18R4605, or 18R4805.

14. The antibody of any one of claims 1-13 which is a monoclonal antibody, a humanized antibody, a human antibody, an IgG1 antibody, an IgG2 antibody, or an antibody fragment.

15. The antibody of claim 1 encoded by the sequence of a plasmid deposited with the ATCC as accession number PTA-9541, PTA-9540, PTA-10307, PTA-10309, or PTA-10311.

16. The antibody of any one of claims 1-15, which is conjugated to a cytotoxic agent.

17. An isolated cell producing the antibody of any one of claims 1-16.

18. A pharmaceutical composition comprising the antibody of any one of claims 1-16 and a pharmaceutically acceptable vehicle.

19. Use of the antibody of any one of claims 1-16, in the manufacture of a medicament for the treatment of cancer.

20. Use of the antibody of any one of claims 1-16, in the manufacture of a medicament for inhibiting canonical Wnt signaling.

21. Use of the antibody of any one of claims 1-16, in the manufacture of a medicament for inhibiting tumor growth.

22. The use of the antibody of claims 19-21, wherein the treatment of cancer, inhibiting canonical Wnt signaling or inhibiting tumor growth comprises administering a second anti-cancer agent to a subject.

23. The use of the antibody of claim 22, wherein the second anti-cancer agent is a chemotherapeutic agent, an angiogenesis inhibitor, an inhibitor of Notch signaling, an anti-Notch antibody, or an anti-Notch ligand antibody.

24. An isolated polypeptide comprising a sequence selected from the group consisting of SEQ ID NOs:10-15.

25. An isolated polynucleotide comprising:

(a) a polynucleotide encoding the antibody of any one of claims 1-16 or the polypeptide of claim 24; or

(b) a sequence selected from the group consisting of SEQ ID NOs:17-22, 87-90, 92, and 94-95.

26. A vector comprising the polynucleotide of claim 25.