

WHAT IS CLAIMED IS:

1. Use of an antibody that specifically binds the extracellular domain of human T-cell immunoreceptor with Ig and ITIM domains (TIGIT) in the manufacture of a medicament for inhibiting tumor growth in a subject, wherein the tumor is a microsatellite instability-high colorectal cancer, a microsatellite stable colorectal cancer, a triple negative breast cancer, a Merkel cell carcinoma, an endometrial cancer, or an esophageal cancer; and wherein the antibody that binds human TIGIT comprises a heavy chain CDR1 comprising TSDYAWN (SEQ ID NO:4), a heavy chain CDR2 comprising YISYSGSTSYNPSLRS (SEQ ID NO:5), a heavy chain CDR3 comprising ARRQVGLGFAY (SEQ ID NO:6), a light chain CDR1 comprising KASQDVSTAVA (SEQ ID NO:7), a light chain CDR2 comprising SASYRYT (SEQ ID NO:8), and a light chain CDR3 comprising QQHYSTP (SEQ ID NO:9).
2. The use of claim 1, wherein the tumor is resistant or refractory to treatment with a PD-1 antagonist or a PD-L1 antagonist, and there is tumor growth progression or recurrence during or after treatment with a PD-1 antagonist or a PD-L1 antagonist.
3. Use of an antibody that specifically binds the extracellular domain of human TIGIT in the manufacture of a medicament for inhibiting tumor growth in a subject, wherein the tumor is resistant or refractory to treatment with a PD-1 antagonist or a PD-L1 antagonist; and wherein the antibody that binds human TIGIT comprises a heavy chain CDR1 comprising TSDYAWN (SEQ ID NO:4), a heavy chain CDR2 comprising YISYSGSTSYNPSLRS (SEQ ID NO:5), a heavy chain CDR3 comprising ARRQVGLGFAY (SEQ ID NO:6), a light chain CDR1 comprising KASQDVSTAVA (SEQ ID NO:7), a light chain CDR2 comprising SASYRYT (SEQ ID NO:8), and a light chain CDR3 comprising QQHYSTP (SEQ ID NO:9).
4. The use of claim 3, wherein there is tumor growth recurrence after treatment with a PD-1 antagonist or a PD-L1 antagonist.
5. Use of an antibody that specifically binds the extracellular domain of human TIGIT in the manufacture of a medicament for inhibiting tumor growth in a subject, wherein the tumor expresses poliovirus receptor (PVR) and/or poliovirus receptor-related 2 (PVRL2); and

wherein the antibody that binds human TIGIT comprises a heavy chain CDR1 comprising TSDYAWN (SEQ ID NO:4), a heavy chain CDR2 comprising YISYSGSTSYNPSLRS (SEQ ID NO:5), a heavy chain CDR3 comprising ARRQVGLGFAY (SEQ ID NO:6), a light chain CDR1 comprising KASQDVSTAVA (SEQ ID NO:7), a light chain CDR2 comprising SASYRYT (SEQ ID NO:8), and a light chain CDR3 comprising QQHYSTP (SEQ ID NO:9).

6. Use of an antibody that specifically binds the extracellular domain of human TIGIT in the manufacture of a medicament for inhibiting tumor growth in a subject, wherein the tumor comprises tumor-infiltrating lymphocytes (TILs) or regulatory T-cells; and wherein the antibody that binds human TIGIT comprises a heavy chain CDR1 comprising TSDYAWN (SEQ ID NO:4), a heavy chain CDR2 comprising YISYSGSTSYNPSLRS (SEQ ID NO:5), a heavy chain CDR3 comprising ARRQVGLGFAY (SEQ ID NO:6), a light chain CDR1 comprising KASQDVSTAVA (SEQ ID NO:7), a light chain CDR2 comprising SASYRYT (SEQ ID NO:8), and a light chain CDR3 comprising QQHYSTP (SEQ ID NO:9).
7. The use of claims 5 and 6, wherein the tumor is resistant or refractory to treatment with a PD-1 antagonist or a PD-L1 antagonist, and there is tumor growth progression or recurrence during or after treatment with a PD-1 antagonist or a PD-L1 antagonist.
8. Use of an antibody that specifically binds the extracellular domain of human TIGIT in the manufacture of a medicament for inhibiting tumor growth in a subject, wherein the tumor is a head and neck cancer, esophageal/gastroesophageal cancer, gastric cancer, colorectal cancer, anal cancer, hepatocellular cancer/liver cancer, cervical cancer, lung cancer, melanoma, Merkel cell carcinoma, renal cell carcinoma/kidney cancer, bladder cancer, ovarian cancer, pancreatic cancer, endometrial cancer, triple negative breast cancer, a solid tumor with high microsatellite instability (MSI) (including microsatellite instability-high colorectal cancer (MSI CRC)) or a microsatellite stable colorectal cancer (MSS CRC); wherein the tumor is resistant or refractory to treatment with an anti-PD-1 antibody or an anti-PD-L1 antibody; and wherein the antibody that binds human TIGIT comprises a heavy chain CDR1 comprising TSDYAWN (SEQ ID NO:4), a heavy chain CDR2 comprising YISYSGSTSYNPSLRS (SEQ ID NO:5), a heavy chain CDR3 comprising ARRQVGLGFAY (SEQ ID NO:6), a light chain CDR1

comprising KASQDVSTAVA (SEQ ID NO:7), a light chain CDR2 comprising SASYRYT (SEQ ID NO:8), and a light chain CDR3 comprising QQHYSTP (SEQ ID NO:9).

9. The use of claim 8, wherein there is tumor growth recurrence after treatment with a PD-1 antagonist or a PD-L1 antagonist.
10. The use of claims 2, 3, 4, 7, 8 and 9, wherein the subject has previously been treated with an anti-PD-1 antibody or an anti-PD-L1 antibody.
11. The use of claims 1-10, wherein the antibody that binds human TIGIT comprises:
 - (i) a heavy chain variable region comprising SEQ ID NO:10 and a light chain variable region comprising SEQ ID NO:11;
 - (ii) a heavy chain amino acid sequence of SEQ ID NO:13 and a light chain amino acid sequence of SEQ ID NO:15; or
 - (iii) a heavy chain amino acid sequence of SEQ ID NO:17 and a light chain amino acid sequence of SEQ ID NO:15.
12. The use of claims 1-11, wherein the antibody that binds human TIGIT comprises a heavy chain variable region comprising SEQ ID NO:10 and a light chain variable region comprising SEQ ID NO:11.
13. The use of claims 1-12, wherein the antibody that binds human TIGIT is monoclonal antibody, a humanized antibody, a human antibody, a recombinant antibody, a chimeric antibody, a bispecific antibody, an antibody fragment comprising an antigen-binding site, an IgG antibody, an IgG1 antibody, an IgG2 antibody, or an IgG4 antibody.
14. The use of claims 1-11, wherein the antibody that binds human TIGIT comprises a heavy chain variable region encoded by the plasmid deposited with ATCC as Designation No. PTA-122346 and a light chain variable region encoded by the plasmid deposited with ATCC as Designation No. PTA-122347.
15. The use of claims 1-12, wherein the antibody that binds human TIGIT is administered in combination with an anti-PD-1 antibody.

16. The use of claim 15, wherein anti-PD-1 antibody is nivolumab.
17. The use of claims 1-16, wherein the antibody that binds human TIGIT is intravenously administered to said subject.
18. The use of claims 1-17, wherein the antibody that binds human TIGIT is to be administered once every week, once every two weeks, once every three weeks, or once every four weeks.
19. The use of claim 18, wherein the antibody that binds human TIGIT is administered about once every two weeks or once every three weeks.
20. The use of any one of claims 1-19, wherein the antibody that binds human TIGIT is administered at a dose of 0.1mg/kg to about 25 mg/kg.