WHAT IS CLAIMED:

1. A binding agent comprising an antigen-binding site that specifically binds an HLA PHOX2B$_{QYNPIRTTF}$ complex, comprising a peptide having the sequence QYNPIRTTF (SEQ ID NO: 1), an HLA α-chain polypeptide and a β_2 microglobulin polypeptide.

2. The binding agent of claim 1, wherein the antigen-binding site binds to the HLA PHOX2B$_{QYNPIRTTF}$ complex with a dissociation constant (K_D) equal to or less than about 500 nM, equal to or less than about 200 nM, or equal to or less than about 13 nM.

3. The binding agent of claim 1 or claim 2, wherein the binding agent is not MHC-restricted.

4. The binding agent of claim 1 or claim 2, wherein the antigen-binding site binds the HLA PHOX2B$_{QYNPIRTTF}$ complex presented by two or more of, three or more of, or four or more of HLA-A*24:02, HLA-A*23:01, HLA-B*14:02, HLA-C*07:01, HLA-C*06:02, HLA-A*29:02, and HLA-A*32:01.

5. The binding agent of any one of claims 1-4, wherein the antigen-binding site comprises:

   a) a V_L comprising a CDR-L1 region as set forth in SEQ ID NO: 6, a CDR-L2 region as set forth in SEQ ID NO: 7, and a CDR-L3 region as set forth in SEQ ID NO: 8; and/or

   b) a V_H comprising a CDR-H1 region as set forth in SEQ ID NO: 9, a CDR-H2 region as set forth in SEQ ID NO: 10, and a CDR-H3 region as set forth in SEQ ID NO: 11;

   or

   a) a V_L comprising a CDR-L1 region as set forth in SEQ ID NO: 15, a CDR-L2 region as set forth in SEQ ID NO: 16, and a CDR-L3 region as set forth in SEQ ID NO: 17; and/or

b) a V_H comprising a CDR-H1 region as set forth in SEQ ID NO: 18, a CDR-H2 region as set forth in SEQ ID NO: 19, and a CDR-H3 region as set forth in SEQ ID NO: 20;

or

a) a V_L comprising a CDR-L1 region as set forth in SEQ ID NO: 26, a CDR-L2 region as set forth in SEQ ID NO: 27, and a CDR-L3 region as set forth in SEQ ID NO: 28; and/or

b) a V_H comprising a CDR-H1 region as set forth in SEQ ID NO: 29, a CDR-H2 region as set forth in SEQ ID NO: 30, and a CDR-H3 region as set forth in SEQ ID NO: 31;

or

a) a V_L comprising a CDR-L1 region as set forth in SEQ ID NO: 35, a CDR-L2 region as set forth in SEQ ID NO: 36, and a CDR-L3 region as set forth in SEQ ID NO: 37; and/or

b) a V_H comprising a CDR-H1 region as set forth in SEQ ID NO: 38, a CDR-H2 region as set forth in SEQ ID NO: 39, and a CDR-H3 region as set forth in SEQ ID NO: 40;

or

a) a V_L comprising a CDR-L1 region as set forth in SEQ ID NO: 44, a CDR-L2 region as set forth in SEQ ID NO: 45, and a CDR-L3 region as set forth in SEQ ID NO: 46; and/or

b) a V_H comprising a CDR-H1 region as set forth in SEQ ID NO: 47, a CDR-H2 region as set forth in SEQ ID NO: 48, and a CDR-H3 region as set forth in SEQ ID NO: 49.

6. The binding agent of any one of claims 1-5, which comprises a V_H and a V_L, wherein the V_H has at least 75%, at least 90%, at least 95%, at least 99%, or 100% sequence identity to SEQ ID NO: 5, and/or wherein the V_L has at least 75%, at least 90%, at least 95%, at least 99%; or 100% sequence identity to SEQ ID NO: 4; or which comprises a V_H and a V_L, wherein the V_H has at least 75%, at least 90%, at least 95%, at least 99%, or 100% sequence identity to SEQ ID NO: 14, and/or wherein the V_L has at least 75%, at least 90%, at least 95%, at least 99%, or 100% sequence identity to SEQ ID NO: 13; or which comprises a V_H and a V_L, wherein the V_H has at least 75%, at least 90%, at least 95%, at least 99%, or 100% sequence identity to SEQ ID NO: 25, and/or wherein the V_L has at least 75%, at least 90%, at least 95%, at least 99%, or 100% sequence identity to SEQ ID NO: 24; or which comprises a V_H and a V_L, wherein the V_H has at least 75%, at least 90%, at least 95%, at least 99%, or 100% sequence identity to SEQ ID NO: 34, and/or wherein the V_L has at least 75%, at least 90%, at least 95%, at least 99%, or 100% sequence identity to SEQ ID NO: 33; or which comprises a V_H and a V_L, wherein the V_H has at least 75%, at least 90%, at least 95%, at least 99%, or 100% sequence identity to SEQ ID NO: 43, and/or wherein the V_L has at least 75%, at least 90%, at least 95%, at least 99%, or 100% sequence identity to SEQ ID NO: 42.

7. The binding agent of any one of claims 1-6, which is an antibody.

8. The binding agent of any one of claims 1-7, which comprises a V_H and a V_L, wherein the V_H is fused to the V_L.

9. The binding agent of any one of claims 1-8, wherein the binding agent is selected from the group consisting of mAb, Fab, Fab', $F(ab')_2$, Fv, Dab single-chain antibody, scFv, CAR, ADC, KIR, BiTE, BsMAb and TFP.

10. The binding agent of claim 9, which is a single chain variable fragment (scFv).

11. The binding agent of any one of claims 1-10, which is a chimeric antigen receptor (CAR).

12. The binding agent of any one of claims 1-10, which is a Killer Ig-Like receptor (KIR).

13. The binding agent of any one of claims 1-10, which is a modular Bispecific T cell-like Engager (BiTE).

14. The binding agent of claim 11, wherein the CAR comprises an intracellular signaling domain of CD3 epsilon, CD3 gamma, CD3 delta, TCR alpha, or TCR beta.

15. An isolated polynucleotide comprising a nucleic acid sequence encoding the binding agent of any one of claims 1-14.

16. An expression vector comprising the polynucleotide of claim 15 operatively linked to a cis-acting regulatory element.

17. A cell comprising the polynucleotide of claim 15 or the expression vector of claim 16.

18. A pharmaceutical composition comprising the binding agent of any one of claims 1-14, the isolated polynucleotide of claim 15, the expression vector of claim 16 or the cell of claim 17.

19. A method of detecting a cancer cell, comprising contacting the cell with the binding agent of any one of claims 1-10, under conditions which allow the binding agent to bind to the HLA PHOX2B$_{QYNPIRTTF}$ complex, wherein binding of the binding agent to the HLA PHOX2B$_{QYNPIRTTF}$ complex or the level thereof is indicative of the cancer cell.

20. A method of identifying cancer in a subject in need thereof, comprising:

a) detecting the presence of cancer cells in the subject according to the method of claim 19;

b) identifying the subject as having cancer when cancer cells are detected.

21. The method of claim 19 or claim 20 wherein said cancer cell is a neuroblastoma.

22. Use of the binding agent of any one of claims 1-14, the isolated polynucleotide of claim 15, the vector of claim 16, the cell of claim 17, or the pharmaceutical composition of claim 18, in the manufacture of a medicament for treating cancer.

23. The use of claim 22, wherein said cancer is neuroblastoma.