

- (M) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL (SEQ ID NO:75)**; and
- (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1D (SEQ ID NO:86)**.

[0014a] In one aspect, the present disclosure refers to a **CD137 x TA** Binding Molecule comprising antibody Variable Domains, wherein said Binding Molecule is capable of specific binding to an epitope of CD137 and an epitope of a tumor antigen (**TA**), and wherein said **CD137 x TA** Binding Molecule comprises a first Light Chain Variable Domain that comprises a CDR_{L1}, CDR_{L2} and CDR_{L3}, and a first Heavy Chain Variable Domain that comprises a CDR_{H1}, CDR_{H2} and CDR_{H3}; and wherein,

- (A) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL (SEQ ID NO:75)**; and
- (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**;
- (B) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL15 (SEQ ID NO:222)**; and
- (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**;
- (C) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL14 (SEQ ID NO:221)**; and
- (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**;
- (D) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL11 (SEQ ID NO:218)**; and
- (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**;

- (I) (1) the Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-4 VL (SEQ ID NO:91)**; and
 - (2) the Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-4 VH (SEQ ID NO:90)**;
 - (J) (1) the Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-5 VL (SEQ ID NO:97)**; and
 - (2) the Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-5 VH (SEQ ID NO:96)**;
 - (K) (1) the Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL (SEQ ID NO:75)**; and
 - (2) the Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1A (SEQ ID NO:83)**;
 - (L) (1) the first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL (SEQ ID NO:75)**; and
 - (2) the first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1C (SEQ ID NO:85)**;
- or
- (M) (1) the first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL (SEQ ID NO:75)**; and
 - (2) the first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1D (SEQ ID NO:86)**.

[0036a] In one aspect, the present disclosure refers to a CD137 binding molecule comprising antibody Variable Domains, that comprises a Light Chain Variable Domain that comprises a CDR_{L1}, CDR_{L2} and CDR_{L3}, and a Heavy Chain Variable Domain that comprises a CDR_{H1}, CDR_{H2} and CDR_{H3}; wherein:

- (A) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL (SEQ ID NO:75)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**;

WHAT IS CLAIMED IS:

- Claim 1. A **CD137 x TA** Binding Molecule comprising antibody Variable Domains, wherein said Binding Molecule is capable of specific binding to an epitope of CD137 and an epitope of a tumor antigen (**TA**), and wherein said **CD137 x TA** Binding Molecule comprises a first Light Chain Variable Domain that comprises a CDR_{L1}, CDR_{L2} and CDR_{L3}, and a first Heavy Chain Variable Domain that comprises a CDR_{H1}, CDR_{H2} and CDR_{H3}; and wherein,
- (A) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL (SEQ ID NO:75)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**;
 - (B) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL15 (SEQ ID NO:222)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**;
 - (C) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL14 (SEQ ID NO:221)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**;
 - (D) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL11 (SEQ ID NO:218)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**;
 - (E) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL10 (SEQ ID NO:217)**; and

- (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**;
- (F)
 - (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL6 (SEQ ID NO:213)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**;
- (G)
 - (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL4 (SEQ ID NO:211)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**;
- (H)
 - (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL (SEQ ID NO:75)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1A (SEQ ID NO:83)**;
- (I)
 - (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL (SEQ ID NO:75)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1C (SEQ ID NO:85)**;
- or
- (J)
 - (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL (SEQ ID NO:75)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1D (SEQ ID NO:86)**.

Claim 2. The **CD137 x TA** Binding Molecule of claim 1, wherein said first Heavy Chain Variable Domain comprises the amino acid sequence of:

- (A) **hCD137 MAB-3 VH1E (SEQ ID NO:208);**
- (B) **hCD137 MAB-3 VH1B (SEQ ID NO:84);**
- (C) **hCD137 MAB-3 VH1A (SEQ ID NO:83);**
- (D) **hCD137 MAB-3 VH1C (SEQ ID NO:85); or**
- (E) **hCD137 MAB-3 VH1D (SEQ ID NO:86).**

Claim 3. The **CD137 x TA** Binding Molecule of any one of claims 1-2, wherein said first Light Chain Variable Domain comprises the amino acid sequence of:

- (A) **hCD137 MAB-3 VL15 (SEQ ID NO:222); or**
- (B) **hCD137 MAB-3 VL3 (SEQ ID NO:89).**

Claim 4. The **CD137 x TA** Binding Molecule of any one of claims 1-3, wherein said tumor antigen (**TA**) is selected from the group of tumor antigens consisting of: 19.9; oncofetal protein 5T4; antigen 4.2; A33; AFP; ALCAM; BAGE; beta-catenin; CA125; Carboxypeptidase M; B1;CD5; CD19; CD20; CD22; CD23; CD25; CD27; CD30; CD33; CD36; CD46; CD52; CD79a/CD79b; CD123; CD317; CEA; CEACAM5; CEACAM6; CO-43; CO-514; CTLA-1; CTLA-4; Cytokeratin 8; E1 series; EGF-R; an Ephrin receptor; Erb; F3; FC10.2; a GAGE GD2; GD3; GD49; GM2; GM3; GICA 19-9; gp37; gp75; gp100; HER-2/neu; human B-lymphoma antigen-CD20; human milk fat globule antigen; human papillomavirus-E6/human papillomavirus-E7; HMW-MAA; I antigen; ITGB6; IL13R α 2; JAM-3; KID3; KID31; KS 1/4 pan-carcinoma antigen; KS 1/4; KSA; L6; L20; LEA; LUCA-2; M1:22:25:8; M18; M39; a MAGE; MART; Myl; MUC-1; MUM-1; N-acetylglucosaminyltransferase; neoglycoprotein; NS-10; OFA-1; OFA-2; Oncostatin M; p15; PSA; PSMA; PEMA; PIPA; prostatic acid phosphate; R24; ROR1; SSEA-1; SSEA-3; SSEA-4; sTn; T cell receptor derived peptide; TAG-72; TL5; TNF- α receptor; TNF- β receptor; TNF- γ receptor; TRA-1-85; Transferrin Receptor; TSTA; and VEGF-R.

Claim 5. The **CD137 x TA** Binding Molecule of claim 4, wherein said tumor antigen (**TA**) is HER2/neu and wherein said **CD137 x TA** Binding Molecule comprises a second Light Chain Variable Domain that comprises a CDR_{L1}, CDR_{L2} and CDR_{L3}, and a second Heavy Chain Variable Domain that comprises a CDR_{H1}, CDR_{H2} and CDR_{H3}; and wherein

- (A) said second Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **HER2 MAB-1 VL (SEQ ID NO:63); and**

- (B) said second Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **HER2 MAB-1 VH (SEQ ID NO:62)**.
- Claim 6. The **CD137 x TA** Binding Molecule of claim 5, wherein:
- (A) said second Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **hHER2 MAB-1 VL3 (SEQ ID NO:69)**;
and
- (B) said second Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **hHER2 MAB-1 VH1 (SEQ ID NO:64)**.
- Claim 7. The **CD137 x TA** Binding Molecule of claim 6, wherein said second Heavy Chain Variable Domain comprises the amino acid sequence of **MAB-1 VH1 (SEQ ID NO:64)**.
- Claim 8. The **CD137 x TA** Binding Molecule of claim 6 or 7, wherein said second Light Chain Variable Domain comprises the amino acid sequence of **hHER2 MAB-1 VL3 (SEQ ID NO:69)**.
- Claim 9. The **CD137 x TA** Binding Molecule of claim 4, wherein the tumor antigen (**TA**) is 5T4 and wherein the **CD137 x TA** Binding Molecule comprises a second Light Chain Variable Domain that comprises a CDR_{L1}, CDR_{L2} and CDR_{L3}, and a second Heavy Chain Variable Domain that comprises a CDR_{H1}, CDR_{H2} and CDR_{H3}; and wherein:
- (A) the second Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **5T4 MAB-1 VL (SEQ ID NO:135)**; and
- (B) the second Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **5T4 MAB-1 VH (SEQ ID NO:134)**.
- Claim 10. The **CD137 x TA** Binding Molecule of claim 9, wherein the second Heavy Chain Variable Domain comprises the amino acid sequence of: **MAB-1 VH1 (SEQ ID NO:134)**.
- Claim 11. The **CD137 x TA** Binding Molecule of claim 9 or 10 wherein the second Light Chain Variable Domain comprises the amino acid sequence of: **MAB-1 VL1 (SEQ ID NO:135)**.

- Claim 12. The **CD137 x TA** Binding Molecule of any one of claims 1-11, wherein said molecule is a bispecific tetravalent Fc-bearing diabody comprising a first, a second, a third, and a fourth polypeptide chain, wherein said polypeptide chains form a covalently bonded complex.
- Claim 13. The **CD137 x TA** Binding Molecule of any one of claims 1-11, wherein said molecule is bispecific and tetravalent, and comprises a first, a second, a third, a fourth, and a fifth polypeptide chain, wherein said polypeptide chains form a covalently bonded complex.
- Claim 14. The **CD137 x TA** Binding Molecule of any one of claims 1-11, wherein said molecule is bispecific and trivalent, and comprises a first, a second, a third, and a fourth, polypeptide chain, wherein said polypeptide chains form a covalently bonded complex.
- Claim 15. The **CD137 x TA** Binding Molecule of claim 14, wherein said tumor antigen (**TA**) is HER2/neu and wherein:
- (A) said first polypeptide chain has the amino acid sequence of **SEQ ID NO:193** and said second polypeptide has the amino acid sequence of **SEQ ID NO:198**; or said first polypeptide chain has the amino acid sequence of **SEQ ID NO:194** and said second polypeptide has the amino acid sequence of **SEQ ID NO:199**; or said first polypeptide chain has the amino acid sequence of **SEQ ID NO:195** and said second polypeptide has the amino acid sequence of **SEQ ID NO:200**; or said first polypeptide chain has the amino acid sequence of **SEQ ID NO:196** and said second polypeptide has the amino acid sequence of **SEQ ID NO:201**; or said first polypeptide chain has the amino acid sequence of **SEQ ID NO:229** and said second polypeptide has the amino acid sequence of **SEQ ID NO:230**;
 - (B) said third polypeptide chain has the amino acid sequence of **SEQ ID NO:104**; and
 - (C) said fourth polypeptide chain has the amino acid sequence of **SEQ ID NO:105**.
- Claim 16. The **CD137 x TA** Binding Molecule of claim 14, wherein said tumor antigen (**TA**) is 5T4 and wherein:

- (A) said first polypeptide chain has the amino acid sequence of **SEQ ID NO:229**;
- (B) said second polypeptide chain has the amino acid sequence of **SEQ ID NO:230**;
- (C) said third polypeptide chain has the amino acid sequence of **SEQ ID NO:231**; and
- (D) said fourth polypeptide chain has the amino acid sequence of **SEQ ID NO:232**.

Claim 17. The **CD137 x TA** Binding Molecule of any one of claims 1-16, wherein:
said first Heavy Chain Variable Domain comprises the amino acid sequence of:

- (A) **hCD137 MAB-3 VH1A (SEQ ID NO:83)**; or
- (B) **hCD137 MAB-3 VH1B (SEQ ID NO:84)**; or
- (C) **hCD137 MAB-3 VH1C (SEQ ID NO:85)**; or
- (D) **hCD137 MAB-3 VH1D (SEQ ID NO:86)**; and

said first Light Chain Variable Domain comprises the amino acid sequence of **CD137 MAB-3 VL3 (SEQ ID NO:89)**.

Claim 18. The **CD137 x TA** Binding Molecule of any one of claims 1-17, wherein:
said first Heavy Chain Variable Domain comprises the amino acid sequence of **hCD137 MAB-3 VH1B (SEQ ID NO:84)**; and
said first Light Chain Variable Domain comprises the amino acid sequence of **CD137 MAB-3 VL3 (SEQ ID NO:89)**.

Claim 19. A pharmaceutical composition comprising the **CD137 x TA** Binding Molecule of any one claims 17-18, and a physiologically acceptable carrier.

Claim 20. Use of the **CD137 x TA** Binding Molecule of any one of claims 17-18, or the pharmaceutical composition of claim 19, in the manufacture of a medicament for the treatment of a cancer.

Claim 21. A CD137 binding molecule comprising antibody Variable Domains, that comprises a Light Chain Variable Domain that comprises a CDR_{L1}, CDR_{L2} and CDR_{L3}, and a Heavy Chain Variable Domain that comprises a CDR_{H1}, CDR_{H2} and CDR_{H3}; wherein:

- (A) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL (SEQ ID NO:75)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**;
- (B) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL15 (SEQ ID NO:222)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**;
- (C) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL14 (SEQ ID NO:221)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**;
- (D) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL11 (SEQ ID NO:218)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**;
- (E) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL10 (SEQ ID NO:217)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**;
- (F) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL6 (SEQ ID NO:213)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**;

- (G) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL4 (SEQ ID NO:211)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1B (SEQ ID NO:84)**
- (H) (1) said Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL (SEQ ID NO:75)**; and
 - (2) said Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1A (SEQ ID NO:83)**;
- (I) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL (SEQ ID NO:75)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1C (SEQ ID NO:85)**;
 or
- (J) (1) said first Light Chain Variable Domain CDR_{L1}, CDR_{L2}, and CDR_{L3} are the Light Chain CDRs of **CD137 MAB-3 VL (SEQ ID NO:75)**; and
 - (2) said first Heavy Chain Variable Domain CDR_{H1}, CDR_{H2}, and CDR_{H3} are the Heavy Chain CDRs of **CD137 MAB-3 VH1D (SEQ ID NO:86)**.

Claim 22. The CD137 Binding Molecule of claim 21, wherein said Heavy Chain Variable Domain comprises the amino acid sequence of:

- (A) **hCD137 MAB-3 VH1E (SEQ ID NO:208)**;
- (B) **hCD137 MAB-3 VH1B (SEQ ID NO:84)**;
- (C) **hCD137 MAB-3 VH1A (SEQ ID NO:83)**;
- (D) **hCD137 MAB-3 VH1C (SEQ ID NO:85)**; or
- (E) **hCD137 MAB-3 VH1D (SEQ ID NO:86)**.

Claim 23. The CD137 Binding Molecule of any one of claims 21-22, wherein said Light Chain Variable Domain comprises the amino acid sequence of:

- (A) **hCD137 MAB-3 VL15 (SEQ ID NO:222)**; or

(B) **hCD137 MAB-3 VL3 (SEQ ID NO:89).**

Claim 24. The CD137 Binding Molecule of any one claims 21-23, wherein said molecule is an antibody or an antigen binding fragment thereof.

Claim 25. The CD137 Binding Molecule of any one of claims 21-24, wherein:
said first Heavy Chain Variable Domain comprises the amino acid sequence of:

- (A) **hCD137 MAB-3 VH1A (SEQ ID NO:83);** or
- (B) **hCD137 MAB-3 VH1B (SEQ ID NO:84);** or
- (C) **hCD137 MAB-3 VH1C (SEQ ID NO:85);** or
- (D) **hCD137 MAB-3 VH1D (SEQ ID NO:86);** and

said first Light Chain Variable Domain comprises the amino acid sequence of **CD137 MAB-3 VL3 (SEQ ID NO:89).**

Claim 26. The CD137 Binding Molecule of any one of claims 21-25, wherein:
said first Heavy Chain Variable Domain comprises the amino acid sequence of **hCD137 MAB-3 VH1B (SEQ ID NO:84);** and
said first Light Chain Variable Domain comprises the amino acid sequence of **CD137 MAB-3 VL3 (SEQ ID NO:89).**

Claim 27. A pharmaceutical composition comprising the CD137 Binding Molecule of any one claims 25-26, and a physiologically acceptable carrier.

Claim 28. Use of the CD137 Binding Molecule of any one of claims 25-26, or the pharmaceutical composition of claim 27, in the manufacture of a medicament for the treatment of a cancer.

Claim 29. The use of claim 20, wherein the medicament is to be administered with a tumor targeting agent.

Claim 30. The use of claim 29, wherein said tumor targeting agent is an antibody, an epitope binding fragment of an antibody, or an agent that mediates T-cell redirected killing of a target cell.

Claim 31. The use of any one of claims 20, 29 and 30, wherein the medicament is to be administered with a PD-1/PD-L1 checkpoint inhibitor.

Claim 32. The use of claim 31, wherein said PD-1/PD-L1 checkpoint inhibitor is an anti-PD-1 antibody or an anti-PD-L1 antibody.

Claim 33. The use of any one of claims 20 and 28-32, wherein said cancer is selected from the group consisting of: bladder cancer, breast cancer, colorectal cancer, gastric cancer, glioblastoma, kidney cancer, lung cancer, melanoma, neuroblastoma, ovarian cancer, pancreatic cancer, pharyngeal cancer, prostate cancer, renal cell carcinoma, rhabdomyosarcoma, and squamous cell cancer of the head and neck (SCCHN).