

SUMMARY

[0004a] In one aspect, the present disclosure refers to a heterodimeric antibody that binds a tumor-associated antigen and a T cell receptor, the antibody comprising:

- a) a first polypeptide comprising an scFv and a first Fc region, wherein the scFv includes a first heavy chain variable region (VHa) and a first light chain variable region (VL_a) joined together by a peptide linker, wherein the scFv is joined to the first Fc region by a first hinge region, and wherein the first heavy chain variable region (VHa) and a first light chain variable region (VL_a) form a first antigen binding domain that binds the T cell receptor;
- b) a second polypeptide comprising a second heavy chain variable region (VHb) and a second Fc region, wherein the second heavy chain variable region (VHb) is joined to the second Fc region by a second hinge region; and
- c) a third polypeptide comprising a second light chain variable region (VLb), wherein the second heavy chain variable region (VHb) of the second polypeptide and the second light chain variable region (VLb) of the third polypeptide form a second antigen binding domain that binds the tumor-associated antigen,
wherein the tumor-associated antigen comprises CD38, and
wherein the T cell receptor comprises CD3.

[0004b] In another aspect, the present disclosure refers to one or more nucleic acids encoding the first, second, and third polypeptides of the heterodimeric antibody as described herein.

[0004c] In another aspect, the present disclosure refers to one or more vectors comprising the one or more nucleic acids as described herein, optionally wherein the one or more vectors comprise a first and second vector, and

- a) the first vector encodes the first and second polypeptides, and the second vector encodes the third polypeptide;
- b) the first vector encodes the second and third polypeptides, and the second vector encodes the first polypeptide; or
- c) the first vector encodes the first and third polypeptides, and the second vector encodes the second polypeptide.

[0004d] In another aspect, the present disclosure refers to a host cell, or a population of host cells, harboring the one or more nucleic acids as described herein or the one or more vectors as described herein.

[0004e] In yet another aspect, the present disclosure refers to a method for preparing a heterodimeric antibody, comprising: culturing a population of host cells under conditions suitable for expressing the first, second and third polypeptides by the population of host cells, wherein individual host cells in the population of host cells harbor the one or more nucleic acids as described herein or the one or more vectors as described herein, optionally wherein the one or more vectors comprise (i) a first vector encoding the first polypeptide and the second polypeptide and (ii) a second vector encoding the third polypeptide.

[0004f] In yet another aspect, the present disclosure refers to an *in vitro* method for binding a tumor-associated antigen and a T cell receptor, comprising: contacting the heterodimeric antibody as described herein with the tumor-associated antigen and the T cell receptor under conditions suitable for binding the heterodimeric antibody to the tumor-associated antigen and the T cell receptor.

[0004g] In yet another aspect, the present disclosure refers to a use of the heterodimeric antibody as described herein for the manufacture of a medicament for treating a disease, wherein the disease comprises a cancer of the prostate, breast, ovary, head and neck, bladder, skin, colorectal, anus, rectum, pancreas, lung (including non-small cell lung and small cell lung cancers), brain, esophagus, liver, kidney, stomach, colon, cervix, uterus, endometrium, vulva, larynx, vagina, bone, nasal cavity, paranasal sinus, nasopharynx, oral cavity, oropharynx, larynx, hypolarynx, salivary glands, ureter, urethra, penis, or testis, or from a leiomyoma, glioma, or glioblastoma.

[0004h] In yet another aspect, the present disclosure refers to the heterodimeric antibody of as described herein, for use in therapy.

[0005] The present disclosure provides heterodimeric antibodies that bind to two different target antigens at the same time (e.g., simultaneously).

[0006] The present disclosure provides a heterodimeric antibody that binds a tumor-associated antigen and a T cell receptor, the antibody comprising: (a) a first polypeptide comprising an scFv and a first Fc region, wherein the scFv forms a first antigen binding domain that binds the T cell receptor; (b) a second polypeptide comprising a heavy chain variable region

and a second Fc region; and (c) a third polypeptide comprising a light chain variable region, wherein the heavy chain variable region of the second polypeptide and the light chain variable region of the third polypeptide form a second antigen binding domain that binds the tumor-associated antigen.

[0007] The present disclosure provides a heterodimeric antibody that binds a tumor-associated antigen and a T cell receptor, the antibody comprising: (a) a first polypeptide comprising an scFv and a first Fc region, wherein the scFv includes a first heavy chain variable region (VHa) and a first light chain variable region (VL_a) joined together by a peptide linker, and wherein the first heavy chain variable region (VHa) and a first light chain variable region (VL_a) form a first antigen binding domain that binds the T cell receptor; (b) a second polypeptide comprising a second heavy chain variable region (VH_b) and a second Fc region; and (c) a third polypeptide comprising a second light chain variable region (VL_b), wherein the second heavy chain variable region (VH_b) of the second polypeptide and the second light chain variable region (VL_b) of the third polypeptide form a second antigen binding domain that binds the tumor-associated antigen.

[0008] The present disclosure provides a heterodimeric antibody that binds a tumor-associated antigen and a T cell receptor, the antibody comprising: (a) a first polypeptide comprising an scFv and a first Fc region, wherein the scFv includes a first heavy chain variable region (VHa) and a first light chain variable region (VL_a) joined together by a peptide linker, wherein the scFv is joined to the first Fc region by a first hinge region, and wherein the first heavy chain variable region (VHa) and a first light chain variable region (VL_a) form a first antigen binding domain that binds the T cell receptor; (b) a second polypeptide comprising a second heavy chain variable region (VH_b) and a second Fc region, wherein the second heavy

chain variable region (VHb) is joined to the second Fc region by a second hinge region, and wherein the first and second hinge regions form a disulfide bond; and (c) a third polypeptide comprising a second light chain variable region (VLb), wherein the second heavy chain variable region (VHb) of the second polypeptide and the second light chain variable region (VLb) of the third polypeptide form a second antigen binding domain that binds the tumor-associated antigen.

[0009] In one [exampleembodiment](#), the heterodimeric antibody binds a tumor-associated antigen which comprises a CD38 antigen.

[0010] In one [exampleembodiment](#), the heterodimeric antibody binds a T cell receptor which comprises a CD3 antigen.

[0011] In one [exampleembodiment](#), the first heavy chain variable region (VHa) and the first light chain variable region (VLb) of the first polypeptide comprise fully human immunoglobulin sequences.

[0012] In one [exampleembodiment](#), the second heavy chain variable region (VHb) of the second polypeptide comprise fully human immunoglobulin sequences, and the second light chain variable region (VLb) of the third polypeptide comprise fully human immunoglobulin sequences.

[0013] In one [exampleembodiment](#), the first heavy chain variable region (VHa) of the first polypeptide comprises an amino acid sequence that is at least 95% identical to one of the sequences selected from SEQ ID NOS:22, 28, 30, 32, 34, 36 and 38.

[0014] In one [exampleembodiment](#), the first light chain variable region (VLb) of the first polypeptide comprises an amino acid sequence that is at least 95% identical to one of the sequences selected from SEQ ID NOS:24, 29, 31, 33, 35, 37 and 39.

[0015] In one [exampleembodiment](#), the first heavy chain variable region (VHa) of the first polypeptide comprises the CDR-H1, CDR-H2, and CDR-H3 sequences of a heavy chain variable region sequence selected from SEQ ID NOS:22, 28, 30, 32, 34, 36 and 38.

[0016] In one [exampleembodiment](#), the first light chain variable region (VLb) of the first polypeptide comprises the CDR-L1, CDR-L2, and CDR-L3 sequences of a light chain variable region sequence selected from SEQ ID NOS:24, 29, 31, 33, 35, 37 and 39. In one

[exampleembodiment](#), the first heavy chain variable region (VHa) of the first polypeptide comprises the CDR-H1, CDR-H2, and CDR-H3 sequences of a heavy chain variable region sequence selected from SEQ ID NOS:22, 28, 30, 32, 34, 36 and 38 and the first light chain variable region (VLb) of the first polypeptide

comprises the CDR-L1, CDR-L2, and CDR-L3 sequences of a light chain variable region sequence selected from SEQ ID NOS:24, 29, 31, 33, 35, 37 and 39.

[0017] In one ~~exampleembodiment~~, the second heavy chain variable region (VHb) of the second polypeptide comprises the CDR-H1, CDR-H2, and CDR-H3 sequences of a heavy chain variable region sequence selected from SEQ ID NOS:1, 6, 8, 10, 12, 14, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62 and 64.

[0018] In one ~~exampleembodiment~~, the second light chain variable region (VLb) of the third polypeptide comprises the CDR-L1, CDR-L2, and CDR-L3 sequences of a light chain variable region sequence selected from SEQ ID NOS:16, 18, 20, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63 and 65. In one ~~exampleembodiment~~, the second heavy chain variable region (VHb) of the second polypeptide comprises the CDR-H1, CDR-H2, and CDR-H3 sequences of a heavy chain variable region sequence selected from SEQ ID NOS:1, 6, 8, 10, 12, 14, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62 and 64 and the second light chain variable region (VLb) of the third polypeptide comprises the CDR-L1, CDR-L2, and CDR-L3 sequences of a light chain variable region sequence selected from SEQ ID NOS:16, 18, 20, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63 and 65.

[0019] In one ~~exampleembodiment~~, the first heavy chain variable region (VHa) of the first polypeptide comprises the CDR-H1, CDR-H2, and CDR-H3 sequences of a heavy chain variable region sequence selected from SEQ ID NOS:22, 28, 30, 32, 34, 36 and 38 and the first light chain variable region (VLb) of the first polypeptide comprises the CDR-L1, CDR-L2, and CDR-L3 sequences of a light chain variable region sequence selected from SEQ ID NOS:24, 29, 31, 33, 35, 37 and 39; and the second heavy chain variable region (VHb) of the second polypeptide comprises the CDR-H1, CDR-H2, and CDR-H3 sequences of a heavy chain variable region sequence selected from SEQ ID NOS:1, 6, 8, 10, 12, 14, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62 and 64 and the second light chain variable region (VLb) of the third polypeptide comprises the CDR-L1, CDR-L2, and CDR-L3 sequences of a light chain variable region sequence selected from SEQ ID NOS:16, 18, 20, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63 and 65.

[0020] In one ~~exampleembodiment~~, the second heavy chain variable region (VHb) of the second polypeptide comprises an amino acid sequence that is at least 95% identical to one of the

sequences selected from SEQ ID NOS:1, 6, 8, 10, 12, 14, 19, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64 and 101.

[0021] In one exampleembodiment, the second light chain variable region (VLb) of the third polypeptide comprises an amino acid sequence that is at least 95% identical to one of the sequences selected from SEQ ID NOS:16, 18, 20, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63 and 65. In one exampleembodiment, the second heavy chain variable region (VHb) of the second polypeptide comprises an amino acid sequence that is at least 95% identical to one of the sequences selected from SEQ ID NOS:1, 6, 8, 10, 12, 14, 19, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64 and 101 and the second light chain variable region (VLb) of the third polypeptide comprises an amino acid sequence that is at least 95% identical to one of the sequences selected from SEQ ID NOS:16, 18, 20, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63 and 65.

[0022] In one exampleembodiment, the first heavy chain variable region (VHa) of the first polypeptide comprises the amino acid sequence of any one of SEQ ID NOS:22, 28, 30, 32, 34, 36 and 38 and/or the first light chain variable region (VLb) of the first polypeptide comprises the amino acid sequence of any one of SEQ ID NOS:24, 29, 31, 33, 35, 37 and 39.

[0023] In one exampleembodiment, the second heavy chain variable region (VHb) of the second polypeptide comprises the amino acid sequence of any one of SEQ ID NOS:1, 6, 8, 10, 12, 14, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62 and 64; and/or the second light chain variable region (VLb) of the third polypeptide comprises the amino acid sequence of any one of SEQ ID NOS:16, 18, 20, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63 and 65.

[0024] In one exampleembodiment, the first heavy chain variable region (VHa) of the first polypeptide comprises the amino acid sequence of any one of SEQ ID NOS:22, 28, 30, 32, 34, 36 and 38 and the first light chain variable region (VLb) of the first polypeptide comprises the amino acid sequence of any one of SEQ ID NOS:24, 29, 31, 33, 35, 37 and 39; and the second heavy chain variable region (VHb) of the second polypeptide comprises the amino acid sequence of any one of SEQ ID NOS:1, 6, 8, 10, 12, 14, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62 and 64; and the second light chain variable region (VLb) of the third polypeptide comprises the amino acid sequence of any one of SEQ ID NOS:16, 18, 20, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63 and 65

[0025] The present disclosure provides a heterodimeric antibody comprising three polypeptide chains, wherein a first polypeptide comprises an amino acid sequence that is at least

amino acid sequence that is at least 95% identical to the amino acid sequence of SEQ ID NO:106, and a third polypeptide comprises an amino acid sequence that is at least 95% identical to the amino acid sequence of SEQ ID NO:86 (e.g., CD38 D8 bump-in-dent series).

[0031] In one exampleembodiment, the first polypeptide comprises the amino acid sequence of SEQ ID NO:87, the second polypeptide comprises the amino acid sequence of SEQ ID NO:89, and the third polypeptide comprises the amino acid sequence of SEQ ID NO:88 (e.g., BZ1).

[0032] In one exampleembodiment, the first polypeptide comprises the amino acid sequence of SEQ ID NO:90, the second polypeptide comprises the amino acid sequence of SEQ ID NO:92, and the third polypeptide comprises the amino acid sequence of SEQ ID NO:91 (e.g., BZ1S).

[0033] In one exampleembodiment, the peptide linker of the first polypeptide comprises a flexible peptide linker.

[0034] In one exampleembodiment, the peptide linker of the first polypeptide comprises the amino acid sequence of SEQ ID NO:23.

[0035] In one exampleembodiment, the first hinge region of the first polypeptide comprises an IgG1, IgG2, IgG3 or IgG4 hinge region.

[0036] In one exampleembodiment, the first hinge region of the first polypeptide comprises the amino acid sequence of SEQ ID NO:25.

[0037] In one exampleembodiment, the second hinge region of the second polypeptide comprises an IgG1, IgG2, IgG3 or IgG4 hinge region.

[0038] In one exampleembodiment, the second hinge region of the second polypeptide comprises the amino acid sequence of SEQ ID NO:3.

[0039] In one exampleembodiment, the first Fc region of the first polypeptide and the second Fc region of the second polypeptide form an Fc domain that can bind Fc cell surface receptors.

[0040] In one exampleembodiment, the first and second Fc regions form an Fc domain that exhibits effector function including complement-dependent cytotoxicity (CDC), antibody-dependent cell-mediated cytotoxicity (ADCC), antibody-dependent phagocytosis (ADP), opsonization and/or cell binding.

[0041] In one exampleembodiment, the first and/or second Fc regions include a mutation that reduces Fc effector function.

[0042] In one exampleembodiment, the first and/or second Fc regions include a LALA mutation.

[0043] In one exampleembodiment, the first and second Fc regions are mutated to form knob-in-hole structures.

[0044] In one exampleembodiment, the first and second Fc regions are mutated to form bump-in-dent structures.

[0045] In one exampleembodiment, the first Fc region of the first polypeptide comprises the amino acid sequences of SEQ ID NOS:26 and 27.

[0046] In one exampleembodiment, the second Fc region of the second polypeptide comprises the amino acid sequences of SEQ ID NOS:4 and 5.

[0047] In one exampleembodiment, the first heavy chain variable region (VHa) and/or the first light chain variable region (VL_a) of the first polypeptide include one or more point mutations that confer increased thermal-stability to the first polypeptide.

[0048] The present disclosure provides one or more nucleic acids encoding the first, second, and third polypeptides of any of the heterodimeric antibodies disclosed herein. The present disclosure provides one or more vectors comprising the one or more nucleic acids encoding the first, second, and third polypeptides of any of the heterodimeric antibodies disclosed herein. In some exampleembodiments, the one or more vectors comprise a first and second vector. In some exampleembodiments, the first vector encodes the first and second polypeptides, and the second vector encodes the third polypeptide. In some exampleembodiments, the first vector encodes the second and third polypeptides, and the second vector encodes the first polypeptide. In some exampleembodiments, the first vector encodes the first and third polypeptides, and the second vector encodes the second polypeptide.

[0049] The present disclosure provides a first nucleic acid encoding the first polypeptide.

[0050] The present disclosure provides a second nucleic acid encoding the second polypeptide.

[0051] The present disclosure provides a third nucleic acid encoding the third polypeptide.

[0052] The present disclosure provides a first nucleic acid encoding the first polypeptide, and a second nucleic acid encoding the second polypeptide, and a third nucleic acid encoding the third polypeptide.

[0053] The present disclosure provides a first vector (e.g, a first expression vector) comprising the first nucleic acid which encodes the first polypeptide.

cells under conditions suitable for expressing the third polypeptide by the third population of host cells, wherein individual host cells in the third population of host cells harbor the third vector which comprises the third nucleic acid encoding the third polypeptide. In one [exampleembodiment](#), the method further comprises: isolating the first, second and third polypeptides from the first, second and third population of cells, respectively. In one [exampleembodiment](#), the method further comprises subjecting the first, second and third polypeptides to conditions suitable for associating the first, second and third polypeptides with each other to form the heterodimeric antibody.

[0070] The present disclosure provides a method for preparing a heterodimeric antibody, comprising: culturing a population of host cells under conditions suitable for expressing the first, second and third polypeptides by the population of host cells, wherein individual host cells in the population of host cells harbor the first and second vectors, wherein the first vector (e.g., a first expression vector) comprises (i) the first nucleic acid which encodes the first polypeptide and (ii) the second nucleic acid which encodes the second polypeptide, wherein the second vector comprises the third nucleic acid which encodes the third polypeptide. In one [exampleembodiment](#), the method further comprises isolating the first, second and third polypeptides from the population of cells. In one [exampleembodiment](#), the method further comprises subjecting the first, second and third polypeptides to conditions suitable for associating the first, second and third polypeptides with each other to form the heterodimeric antibody.

[0071] The present disclosure provides a method for preparing a heterodimeric antibody, comprising: culturing a population of host cells under conditions suitable for expressing the first, second and third polypeptides by the population of host cells, wherein individual host cells in the population of host cells harbor the first and second vectors, wherein the first vector (e.g., a first expression vector) comprises (i) the second nucleic acid which encodes the second polypeptide and (ii) the third nucleic acid which encodes the third polypeptide, wherein the second vector comprises the first nucleic acid which encodes the first polypeptide. In one [exampleembodiment](#), the method further comprises isolating the first, second and third polypeptides from the population of cells. In one [exampleembodiment](#), the method further comprises subjecting the first, second and third polypeptides to conditions suitable for associating the first, second and third polypeptides with each other to form the heterodimeric antibody.

[0072] The present disclosure provides a method for preparing a heterodimeric antibody, comprising: culturing a population of host cells under conditions suitable for expressing the first, second and third polypeptides by the population of host cells, wherein individual host cells in the population of host cells harbor the first and second vectors, wherein the first vector (e.g., a first expression vector) comprises (i) the first nucleic acid which encodes the first polypeptide and (ii) the third nucleic acid which encodes the third polypeptide, wherein the second vector comprises the second nucleic acid which encodes the second polypeptide. In one exampleembodiment, the method further comprises isolating the first, second and third polypeptides from the population of cells. In one exampleembodiment, the method further comprises subjecting the first, second and third polypeptides to conditions suitable for associating the first, second and third polypeptides with each other to form the heterodimeric antibody.

[0073] The present disclosure provides a method for preparing a heterodimeric antibody, comprising: culturing a population of host cells under conditions suitable for expressing the first, second and third polypeptides by the population of host cells, wherein individual host cells in the population of host cells harbor the vector which comprises (i) the first nucleic acid which encodes the first polypeptide, (ii) the second nucleic acid which encodes the second polypeptide, and (iii) the third nucleic acid which encodes the third polypeptide. In one exampleembodiment, the method further comprises isolating the first, second and third polypeptides from the population of cells. In one exampleembodiment, the method further comprises subjecting the first, second and third polypeptides to conditions suitable for associating the first, second and third polypeptides with each other to form the heterodimeric antibody.

[0074] The present disclosure provides a method for binding a tumor-associated antigen and a T cell receptor, comprising: contacting any of the heterodimeric antibody described herein with the tumor-associated antigen and the T cell receptor under conditions suitable for binding the heterodimeric antibody to the tumor-associated antigen and the T cell receptor. In one exampleembodiment, the heterodimeric antibody is contacted with the tumor-associated antigen first and contacted with the T cell receptor second (e.g., sequentially). In one exampleembodiment, the heterodimeric antibody is contacted with the T cell receptor first and contacted with the tumor-associated antigen second (e.g., sequentially). In one exampleembodiment, the heterodimeric antibody is contacted with the tumor-associated antigen and the T cell receptor at the same time (e.g., essentially simultaneously).

[0075] In one exampleembodiment, in the method for binding a tumor-associated antigen and a T cell receptor, the tumor-associated antigen is expressed by a cell from a cancer of the prostate, breast, ovary, head and neck, bladder, skin, colorectal, anus, rectum, pancreas, lung (including non-small cell lung and small cell lung cancers), brain, esophagus, liver, kidney, stomach, colon, cervix, uterus, endometrium, vulva, larynx, vagina, bone, nasal cavity, paranasal sinus, nasopharynx, oral cavity, oropharynx, larynx, hypolarynx, salivary glands, ureter, urethra, penis, or testis or from a leiomyoma, glioma, or glioblastoma.

[0076] In one exampleembodiment, in the method for binding a tumor-associated antigen and a T cell receptor, the tumor-associated antigen is expressed by a hematologic cancer. In some examplesembodiments, the hematologic cancer is a B chronic lymphocytic leukemia (B-CLL), B and T acute lymphocytic leukemia (LL), acute myeloid leukemia (AML), chronic lymphocytic leukemia (CLL), chronic myelogenous leukemia (CML), hairy cell leukemia (HCL), myeloproliferative disorder/neoplasm (MPDS), myelodysplasia syndrome, non-Hodgkin's lymphoma (NHL) including Burkitt's lymphoma (BL), Waldenstrom's Macroglobulinemia, mantle cell lymphoma, AIDS-related lymphoma, Hodgkin's Lymphoma (HL), T cell lymphoma (TCL), multiple myeloma (MM), plasma cell myeloma, plamocytoma, giant cell myeloma, heavy-chain myeloma, and light chain or Bence-Jones myeloma.

[0077] In one exampleembodiment, in the method for binding a tumor-associated antigen and a T cell receptor, the T cell receptor is expressed by an effector T cell. In one exampleembodiment, the effector T cell kills the tumor or cancer cell by mediating cytotoxic cell killing. In one exampleembodiment, the binding the heterodimeric antibody to the tumor-associated antigen and the T cell receptor forms a cell synapse. In one exampleembodiment, the T cell receptor is expressed on an effector T cell and the tumor-associate antigen is expressed by a tumor or cancer cell. In one exampleembodiment, the effector T cell in the cell synapse kills the tumor or cancer cell by mediating cytotoxic cell killing.

[0078] The present disclosure provides a method for treating a disease in a subject, comprising: administering to the subject a therapeutically effective amount of any of the heterodimeric antibodies described herein. The present disclosure provides a use of any of the heterodimeric antibodies described herein for the manufacture of a medicament for treating a disease. The present disclosure provides any of the heterodimeric antibodies described herein for use in treating a disease.

[0079] In one exampleembodiment, with respect to the method, use, or antibody for use for treating a disease in a subject, the disease comprises a cancer of the prostate, breast, ovary, head and neck, bladder, skin, colorectal, anus, rectum, pancreas, lung (including non-small cell lung and small cell lung cancers), brain, esophagus, liver, kidney, stomach, colon, cervix, uterus, endometrium, vulva, larynx, vagina, bone, nasal cavity, paranasal sinus, nasopharynx, oral cavity, oropharynx, larynx, hypolarynx, salivary glands, ureter, urethra, penis, or testis, or a leiomyoma, glioma, or glioblastoma.

[0080] In one exampleembodiment, with respect to the method, use, or antibody for use for treating a disease in a subject, the disease comprises a hematologic cancer. The hematologic cancer may be a B chronic lymphocytic leukemia (B-CLL), B and T acute lymphocytic leukemia (LL), acute myeloid leukemia (AML), chronic lymphocytic leukemia (CLL), chronic myelogenous leukemia (CML), hairy cell leukemia (HCL), myeloproliferative disorder/neoplasm (MPDS), myelodysplasia syndrome, non-Hodgkin's lymphoma (NHL) including Burkitt's lymphoma (BL), Waldenstrom's Macroglobulinemia, mantle cell lymphoma, AIDS-related lymphoma, Hodgkin's Lymphoma (HL), T cell lymphoma (TCL), multiple myeloma (MM), plasma cell myeloma, plasmacytoma, giant cell myeloma, heavy-chain myeloma, or light chain or Bence-Jones myeloma.

DESCRIPTION OF THE FIGURES

[0081] **Figure 1** is a schematic showing a non-limiting embodiment of a heterodimeric antibody.

[0082] **Figure 2** is a SDS-PAGE gel image of Protein A affinity liquid chromatography-purified transient CHO-expressed CD38/CD3 bispecific antibody throughout iterations of protein engineering.

[0083] **Figure 3A** shows a chromatogram generated from analytical size exclusion chromatography (ANSEC) of a sample of a heterodimeric antibody after protein A purification. The data shown is for bispecific antibody CD38A2-3H10/CD3tsm#1 knob-into-hole.

[0084] **Figure 3B** shows a chromatogram generated from analytical size exclusion chromatography (ANSEC) of a sample of a heterodimeric antibody after protein A purification. The data shown is for bispecific antibody CD38D8/ss4xCD3 bump-into-dent.