What is claimed is:

1. An anti-GCC antibody molecule, wherein the light chain variable region and the heavy chain variable region of the anti-GCC antibody molecule are selected from: the light and heavy chain sequences disclosed in Table 2 for any one of the following antibodies:

5F9;

Ab 229; or

3G1.

2. The anti-GCC antibody molecule, of claim 1, wherein said anti-GCC antibody molecule is an IgG1 antibody.

3. The anti-GCC antibody molecule of claim 1, wherein said anti-GCC antibodymolecule is not conjugated to a therapeutic agent.

4. The anti-GCC antibody molecule of claim 1, wherein said anti-GCC antibodymolecule is conjugated to a therapeutic agent.

5. The anti-GCC antibody molecule of claim 1, wherein said anti-GCC antibody molecule is conjugated to a detectable label.

6. An anti-GCC antibody molecule, comprising light chain CDR1, CDR2, and CDR3, and heavy chain CDR1, CDR2, and CDR3, disclosed in Table 5 for any one of the following antibodies:

5F9;

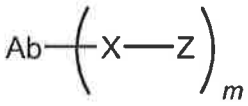
Ab 229; or

3G1.

7. The anti-GCC antibody molecule of claim 6, further comprising human or human derived light and heavy variable region frameworks.

8. The anti-GCC antibody molecule of claim 7, wherein said anti-GCC antibody is an IgG1 antibody.

9. An immunoconjugate of formula (*I*):



(*I*)

or a pharmaceutically acceptable salt thereof, wherein:

Ab is an anti-GCC antibody molecule of claim 1;

X is a linker moiety which connects Ab and Z;

Z is a therapeutic agent or a label; and

m is an integer from 1 to 15.

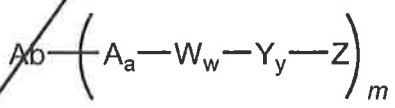
10. The immunoconjugate of claim 9, wherein Z is a detectable label.

11. The immunoconjugate of claim 9, wherein –Z is a maytansine or an auristatin.

12. The immunoconjugate of claim 9, wherein -Z is DM1 or DM4.

13. The immunoconjugate of claim 9, wherein -Z is MMAE or MMAF.

14. The immunoconjugate of claim 9, wherein the linker –X- has the formula $-A_a-W_w-Y_y-$, and the immunoconjugate is characterized by formula (*II*):



(*II*)

or a pharmaceutically acceptable salt thereof, wherein:

-A- is a Stretcher unit;

a is 0 or 1;

each –W- independently is an Amino Acid unit;

w is an integer ranging from 0 to 12;

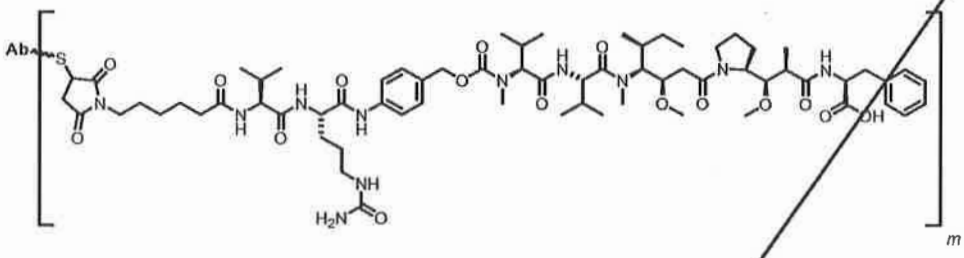
-Y- is a self-immolative Spacer unit;

y is 0, 1, or 2;

Z is a therapeutic agent or label; and

m ranges from about 1 to about 15.

15. An immunoconjugate of formula (*I-4*):



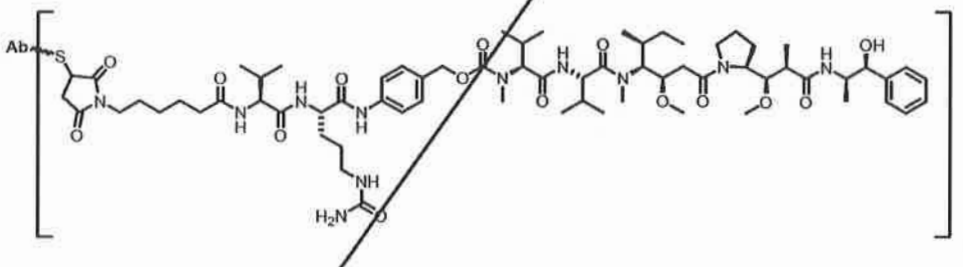
(*I-4*)

or a pharmaceutically acceptable salt thereof, wherein:

Ab is 5F9; and

m is an integer from 1 to 8.

16. An immunoconjugate of formula (*I-5*):



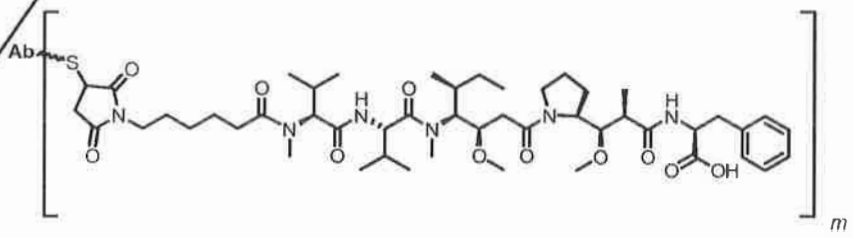
(*I-5*)

or a pharmaceutically acceptable salt thereof, wherein:

Ab is 5F9; and

m is an integer from 1 to 8.

17. An immunoconjugate of formula (*I-7*):



(*I-7*)

or a pharmaceutically acceptable salt thereof, wherein:

Ab is 5F9; and

m is an integer from 1 to 8.

18. The immunoconjugate of claim 15, wherein *m* is from 1 to 3.

19. The immunoconjugate of claim 15, wherein *m* is from 3 to 5.

20. The immunoconjugate of claim 16, wherein *m* is from 3 to 5.

21. The immunoconjugate of claim 18, wherein *m* is from 3 to 5.

22. A method of treating a subject for colon cancer, comprising administering to said subject, a therapeutically effective amount of an antibody molecule of claim 1 or 6, thereby treating said subject.

23. A method of treating a subject for colon cancer, comprising administering to said subject a therapeutically effective amount of an immunoconjugate of any one of claims 9-17.

24. Isolated nucleic acid sequences that encode an antibody molecule of claim 1 or 6.

25. A cell comprising the isolated nucleic acid sequences of claim 24.

26. A method of producing an antibodymolecule of claim 1 or 6, comprising culturing the cell of claim 25under conditions that allow production of an antibody molecule, thereby producing the antibody molecule of claim 1 or 6.

27. A vector comprising one or both of the light chain and heavy chain of an antibody molecule of claim 1 or 6.

28. A method of detecting a GCC molecule comprising contacting the molecule with an antibody molecule of claim 1 or 6 and determining if said antibody molecule, binds to said GCC molecule.

CLAIMS:

1. An isolated anti-GCC antibody molecule, comprising a light chain variable region and a heavy chain variable region, wherein the light chain variable region comprises three light chain complementarity determining regions (LCDR1, LCDR2, and LCDR3), and the heavy chain variable region comprises three heavy chain complementarity determining regions (HCDR1, HCDR2, and HCDR3),

wherein the light chain variable region comprises: an LCDR1 comprising the amino acid sequence of SEQ ID NO:112, an LCDR2 comprising the amino acid sequence of SEQ ID NO:114 and an LCDR3 comprising the amino acid sequence of SEQ ID NO:116; and

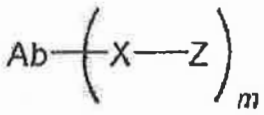
wherein the heavy chain variable region comprises: an HCDR1 comprising the amino acid sequence of SEQ ID NO:106, an HCDR2 comprising the amino acid sequence of SEQ ID NO:108 and an HCDR3 comprising the amino acid sequence of SEQ ID NO:110.

2. The isolated anti-GCC antibody molecule of Claim 1 further comprising human or human derived light and heavy variable region frameworks, and/or wherein said anti-GCC antibody is an IgG1 antibody.

3. The anti-GCC antibody molecule of Claims 1 or 2, wherein the light chain variable region comprises the amino acid sequence of SEQ ID NO:20 and the heavy chain variable region comprises the amino acid sequence of SEQ ID NO:18.

4. The isolated anti-GCC antibody molecule of any one of Claims 1 to 3, wherein said anti-GCC antibody molecule is either not conjugated to a therapeutic agent or is conjugated to a therapeutic agent or a detectable label.

5. An immunoconjugate of formula (*I*):



(*I*)

or a pharmaceutically acceptable salt thereof, wherein:

Ab is an isolated anti-GCC antibody molecule of any one of Claims 1 to 3;

X is a linker moiety which connects Ab and Z;

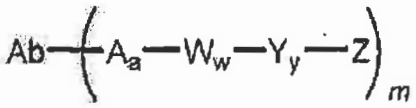
Z is a therapeutic agent or a label; and

m is the number of –X-Z moieties per anti-GCC antibody molecule in the immunoconjugate of formula (*I*), and *m* is an integer from 1 to 15.

6. The immunoconjugate of Claim 5, wherein Z is a detectable label, a maytansine, an auristatin, DM1, DM4, MMAE, or MMAF.

7. The immunoconjugate of Claim 5, wherein

(a) the linker –X- has the formula -Aa-Ww-Yy-, and the immunoconjugate is characterized by formula (*II*):



(*II*)

or a pharmaceutically acceptable salt thereof, wherein:

-A- is a Stretcher unit;

a is 0 or 1;

each –W- independently is an Amino Acid unit;

w is an integer ranging from 0 to 12;

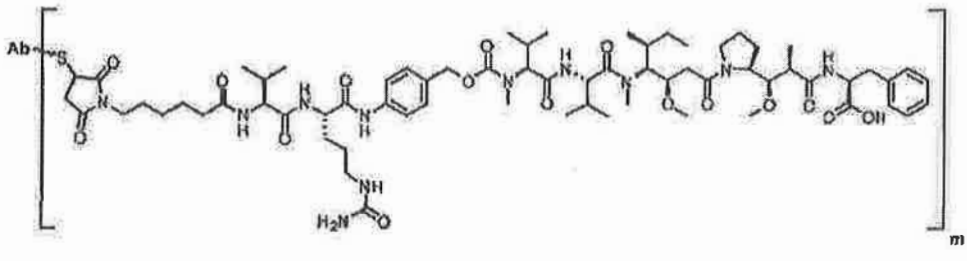
-Y- is a self-immolative Spacer unit;

y is 0, 1, or 2;

Z is a therapeutic agent or label; and

m is an integer from 1 to 15; or

(b) the immunoconjugate has formula (*I-4*):

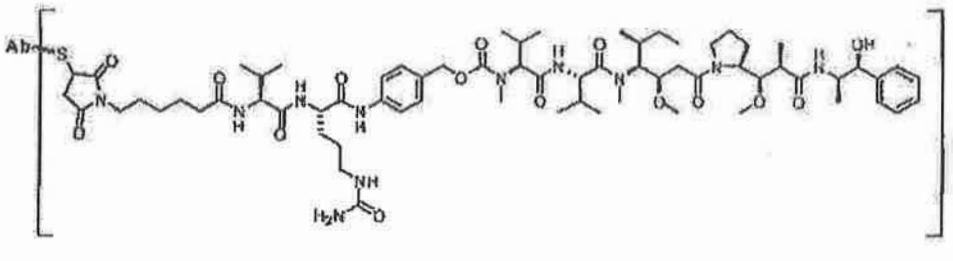


(*I-4*)

or a pharmaceutically acceptable salt thereof, wherein:

m is an integer from 1 to 8; or

(c) the immunoconjugate has formula (*I-5*):

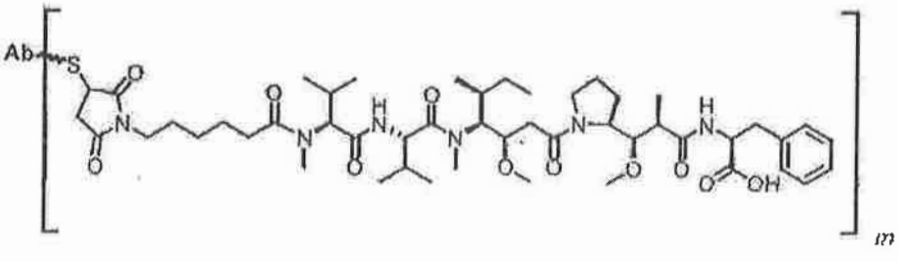


(*I-5*)

or a pharmaceutically acceptable salt thereof, wherein:

m is an integer from 1 to 8; or

(d) the immunoconjugate has formula (*I-7*):



(*I-7*)

or a pharmaceutically acceptable salt thereof, wherein:

m is an integer from 1 to 8.

8. The immunoconjugate of Claim 7, wherein *m* is from 1 to 3 or from 3 to 5.

9. Use of an isolated antibody molecule of any one of Claims 1 to 4 or an immunoconjugate of any one of Claims 5 to 8 in the manufacture of a medicament for the treatment of a disorder.

10. The use of Claim 9, wherein the disorder is cancer, a cancer of the gastrointestinal system, or a metastatic lesion thereof, or primary or metastatic colorectal cancer, gastric cancer, esophageal cancer, pancreatic cancer, or lung cancer.

11. The use of Claim 9 or 10 for use in combination with one or more additional therapeutic agents.

12. The use of Claim 11, wherein the one or more additional therapeutic agents comprise 5-fluorouricil (5-FU), capecitibine, leucovorin, irinotecan, oxaliplatin, bevacizumab, cetuximab, panitumum, or any combination thereof.

13. The use of Claim 12 wherein the combination is oxaliplatin/capecitibine (XELOX), 5-FU/leucovorin/oxaliplatin (FOLFOX), 5-FU/leucovorin/irinotecan (FOLFIRI), FOLFOX plus bevacizumab, or FOLOFIRI plus bevacizumab.

14. The use of Claim 11, wherein the one or more additional therapeutic agents comprise one or more chemotherapeutic agents selected from a DNA damaging agents, a topoisomerase I inhibitor, a topoisomerase II inhibitor, alkylating agent, DNA intercalator, free radical generator, nucleoside mimetic, an agent that disrupts cell replication, paclitaxel, docetaxel, and related analogs, vincristine, vinblastin, and related analogs, thalidomide, lenalidomide, and related analogs, a protein tyrosine kinase inhibitor, a proteasome inhibitor, an NF-KB inhibitor including an inhibitor of IκB kinase, an antibody which binds to proteins overexpressed in cancers and thereby downregulate cell replication, and other inhibitors of proteins or enzymes known to be upregulated, over-expressed or activated in cancers, the inhibition of which downregulates cell replication.

15. The use of Claims 14 wherein the topoisomerase I inhibitor is irinotecan, topotecan, camptothecin or an analog or metabolite thereof, or doxorubicin; the topoisomerase II inhibitor is etoposide, teniposide, or daunorubicin; the alkylating agent is melphalan, chlorambucil, busulfan, thiotepa, ifosfamide, carmustine, lomustine, semustine, streptozocin, decarbazine, methotrexate, mitomycin C, or cyclophosphamide; the DNA intercalator is cisplatin, oxaliplatin, or carboplatin; the free radical generator is bleomycin; the nucleoside mimetic is 5-fluorouracil, capecitibine, gemcitabine, fludarabine, cytarabine, mercaptopurine, thioguanine, pentostatin, or hydroxyurea; the related analogof thalidomide or lenalidomide is CC-5013 or CC-4047; the protein tyrosine kinase inhibitor is imatinib mesylate or gefitinib; the proteasome inhibitor is bortezomib; the antibody which binds to proteins overexpressed in cancers is trastuzumab, rituximab, cetuximab or bevacizumab.

16. The use of any one of Claims 9 to 15, wherein the use further comprises detecting a GCC molecule comprising contacting the molecule with an antibody molecule and determining if said antibody molecule binds to said GCC molecule.

17. An isolated antibody molecule of any one of Claims 1 to 4 or an immunoconjugate of any one of Claims 5 to 8 for use in a method of treating a subject for a disorder.

18. A pharmaceutical composition comprising the isolated antibody molecule of any one of Claims 1 to 4 or an immunoconjugate of any one of Claims 5 to 8, and a pharmaceutically acceptable carrier.

19. The pharmaceutical composition of Claim 18, comprising a plurality of immunoconjugates of formula (*I*), wherein two or more of the immunoconjugates have a different *m* value, or wherein *m* is the average number of –X-Z moieties per anti-GCC antibody molecule.

20. The pharmaceutical composition of Claim 19, wherein *m* is the integer 4.

21. The pharmaceutical composition of any one of Claims 18 to 20, comprising a plurality of immunoconjugates of formula (*I-5*).

22. The pharmaceutical composition of any one of Claims 18 to 21 for use in a method of treating a disorder in a subject.

23. The isolated antibody molecule or immunoconjugate of Claim 17, or the pharmaceutical composition of Claim 22, wherein the disorder is cancer, a cancer of the gastrointestinal system, or a metastatic lesion thereof, or primary or metastatic colorectal cancer, gastric cancer, esophageal cancer, pancreatic cancer, or lung cancer.

24. An isolated nucleic acid encoding an antibody molecule of any one of Claims 1 to 3 or a variable region of an antibody molecule of any one of Claims 1 to 3.

25. The isolated nucleic acid of Claim 24 comprising a nucleic acid sequence of SEQ ID NOs: 17 or 19.

26. An isolated cell comprising the isolated nucleic acid of any one of Claims 24 or 25.

27. A method of producing an isolated antibody molecule of any one of Claims 1 to 3, comprising culturing the cell of Claim 26 under conditions that allow production of an antibody molecule, thereby producing the isolated antibody molecule of any one of Claims 1 to 3.

28. A vector comprising one or both of the light chain and heavy chain variable regions of an antibody molecule of any one of Claims 1 to 3.

29. A method of detecting a GCC molecule comprising contacting the molecule with an isolated antibody molecule of any one of Claims 1 to 4 and determining if said antibody molecule binds to said GCC molecule.

30. A container comprising the pharmaceutical composition of any one of Claims18 to 21.

31. A kit comprising the isolated anti-GCC antibody molecule of any one of Claims 1 to 4 or the immunoconjugate of any one of Claims 5 to 8.