Claims

1. ~~A~~ monoclonal antibody having the ability of binding to GT468 and mediating killing and/or inhibition of one or more activities of cells expressing GT468, wherein said activity is selected from the group consisting of cell motility, cell migration and invasion of cells.

2. The monoclonal antibody of claim 1, wherein said killing and/or inhibition of one or more activities of cells is induced by binding of said antibody to GT468 expressed by said cells.

3. The monoclonal antibody of either claim 1 or 2, wherein said killing and/or inhibition of one or more activities of cells is induced by binding of said antibody to the extracellular domain of GT468 expressed by said cells.

4. The monoclonal antibody of any one of claims 1-3, wherein said killing and/or inhibition of one or more activities is not induced by binding of said antibody to non-cancerous GT468 expressing cells.

5. The monoclonal antibody of any one of claims 1-4, wherein said cells expressing GT468 are cancer cells.

6. The monoclonal antibody of claim 5, wherein the cancer cells are selected from the group consisting of tumorigenic breast, lung, gastric, ovarian and hepatocellular cancer cells.

7. The monoclonal antibody of any one of claims 1-6 which mediates said killing of cells by inducing complement dependent cytotoxicity (CDC) mediated lysis, antibody dependent cellular cytotoxicity (ADCC) mediated lysis, apoptosis, homotypic adhesion, and/or phagocytosis.

8. The monoclonal antibody of any one of claims 1-7 which mediates said killing of cells by inducing CDC mediated lysis and/or ADCC mediated lysis.

9. The monoclonal antibody of any one of claims 1-8 which does not induce CDC mediated lysis of said cells.

10. The monoclonal antibody of any one of claims 7-9 wherein said ADCC mediated lysis takes place in the presence of effector cells selected from the group consisting of monocytes, mononuclear cells, NK cells and PMNs.

11. The monoclonal antibody of any one of claims 7-10 wherein said phagocytosis is by macrophages.

12. The monoclonal antibody of any one of claims 1-11 which is a ~~monoclonal,~~ chimeric, human or humanized antibody, or a fragment of an antibody.

13. The monoclonal antibody of any one of claims 1-12 selected from the group consisting of an IgG1, an IgG2, preferably IgG2a and IgG2b, an IgG3, an IgG4, an IgM, an IgA1, an IgA2, a secretory IgA, an IgD, and an IgE antibody.

14. The monoclonal antibody of any one of claims 1-13 wherein GT468 has the amino acid sequence according to SEQ ID NO: 2.

15. The monoclonal antibody of any one of claims 1-14 wherein the antibody binds specifically to GT468.

16. The monoclonal antibody of any one of claims 1-15 which binds to native epitopes of GT468 present on the surface of living cells.

17. The monoclonal antibody of any one of claims 1-16 which is specific for cancer cells, preferably breast cancer cells.

18. The monoclonal antibody of any one of claims 1-17 wherein said GT468 is expressed on the surface of said cells.

19. The monoclonal antibody of any one of claims 1-18 which is obtainable by a method comprising the step of immunizing an animal with a protein or peptide having an amino acid

sequence selected from the group consisting of SEQ ID NO: 2-10 and 35-79, or an immunogenic fragment or derivative thereof, or a nucleic acid or host cell expressing said protein or peptide, or immunogenic fragment or derivative thereof.

20. A~~n~~ monoclonal antibody produced by a clone deposited under the accession no. DSM ACC2822 (4E9-1H9), DSM ACC2825 (61C11-2B5), or DSM ACC2894 (F11#33F7D12).

21. A hybridoma capable of producing the antibody of any one of claims 1 to 20.

22. A hybridoma deposited under the accession no. DSM ACC2822 (4E9-1H9), DSM ACC2825 (61C11-2B5), or DSM ACC2894 (F11#33F7D12).

23. A conjugate comprising a~~n~~ monoclonal antibody of any one of claims 1 to 20 coupled to a therapeutic agent.

24. The conjugate of claim 23 wherein the therapeutic agent is a toxin, a radioisotope, a drug or a cytotoxic agent.

25. A pharmaceutical composition comprising a~~n~~ monoclonal antibody of any one of claims 1 to 20 and/or a conjugate of claim 23 or 24, and a pharmaceutically acceptable carrier.

26. Use of a~~n~~ monoclonal antibody of any one of claims 1 to 20 and/or a conjugate of claim 23 or 24 in the preparation of a medicament for inhibiting growth of a cancer cell expressing GT468 and/or being characterized by association of GT468 with its cell surface.

27. Use of a~~n~~ monoclonal antibody of any one of claims 1 to 20 and/or a conjugate of claim 23 or 24 in the preparation of a medicament for killing a cancer cell expressing GT468 and/or being characterized by association of GT468 with its cell surface.

28. Use of a~~n~~ monoclonal antibody of any one of claims 1 to 20 and/or a conjugate of claim 23 or 24 in the preparation of a medicament for inhibiting metastatic spread of a cancer cell expressing GT468 and/or being characterized by association of GT468 with its cell surface.

29. Use of ~~an~~ monoclonal antibody of any one of claims 1 to 20, a conjugate of claim 23 or 24 or a pharmaceutical composition of claim 25 in the preparation of a medicament for treating or preventing a disease or disorder involving cancer cells expressing GT468 and/or being characterized by association of GT468 with their cell surface in a subject.

30. The use of claim 29 wherein the disease or disorder is a tumor-related disease.

31. The use of claim 30 wherein the tumor-related disease is selected from the group consisting of breast cancer, lung cancer, gastric cancer, ovarian cancer and hepatocellular cancer.

32. The use of any one of claims 26-31, wherein said GT468 has the amino acid sequence according to SEQ ID NO: 2.

33. The use of any one of claims 26-32 wherein said GT468 is expressed on the surface of said cells.

34. The pharmaceutical composition of claim 25, wherein the composition is for use: in inhibiting growth of a cancer cell expressing GT468 and/or being characterized by association of GT468 with its cell surface; for killing a cancer cell expressing GT468 and/or being characterized by association of GT468 with its cell surface~~,~~; for inhibiting metastatic spread of a cancer cell expressing GT468 and/or being characterized by association of GT468 with its cell surface~~;~~, or for treating or preventing a disease or disorder involving cancer cells expressing GT468 and/or being characterized by association of GT468 with their cell surface in a subject.

35. The pharmaceutical composition of claim 34, wherein the disease or disorder is a tumor-related disease.

36. The pharmaceutical composition of claim 35, wherein the tumor-related disease is selected from the group consisting of breast cancer, lung cancer, gastric cancer, ovarian cancer and hepatocellular cancer.

37. The pharmaceutical composition of any one of claims 34-36, wherein said GT468 has the amino acid sequence according to SEQ ID NO: 2.

38. The pharmaceutical composition of any one of claims 34-37, wherein said GT468 is expressed on the surface of said cells.