Claims:

1. An antibody which comprises:

~~(i) an antibody heavy chain comprising an antibody heavy chain sequence according to SEQ ID NO: 34 or a variant thereof and an antibody light chain comprising an antibody light chain sequence according to SEQ ID NO: 35 or a variant thereof,~~

~~(ii) an antibody heavy chain comprising an antibody heavy chain sequence according to SEQ ID NO: 36 or a variant thereof and an antibody light chain comprising an antibody light chain sequence according to SEQ ID NO: 37 or a variant thereof,~~

~~(iii) an antibody heavy chain comprising an antibody heavy chain sequence according to SEQ ID NO: 38 or a variant thereof and an antibody light chain comprising an antibody light chain sequence according to SEQ ID NO: 39 or a variant thereof,~~

~~(iv) an antibody heavy chain comprising an antibody heavy chain sequence according to SEQ ID NO: 40 or a variant thereof and an antibody light chain comprising an antibody light chain sequence according to SEQ ID NO: 41 or a variant thereof, or~~

~~(v)~~ an antibody heavy chain comprising an antibody heavy chain sequence according to SEQ ID NO: 36 or a variant thereof and an antibody light chain comprising an antibody light chain sequence selected from the group consisting of SEQ ID NOs: 35, 54 and 55 or a variant thereof,

wherein said variant is a humanized or chimerized form of said antibody chain.

2. The antibody of claim 1 which is capable of binding to CLDN6 associated with the surface of a cell that expresses CLDN6 and is not substantially capable of binding to CLDN9 associated with the surface of a cell that expresses CLDN9.

3. The antibody of claim 1 or 2, which is not substantially capable of binding to CLDN4 associated with the surface of a cell that expresses CLDN4 and/or is not substantially capable of binding to CLDN3 associated with the surface of a cell that expresses CLDN3.

4. The antibody of any one of claims 1-3, which is specific for CLDN6.

5. The antibody of any one of claims 2-4, wherein said cell is an intact cell, in particular a non-permeabilized cell.

6. The antibody of any one of claims 1-5, which is capable of binding to an epitope located within an extracellular portion of CLDN6.

7. The antibody of any one of claims 1-6, wherein CLDN6 has the amino acid sequence of SEQ ID NO: 2 or the amino acid sequence of SEQ ID NO: 8.

8. The antibody of any one of claims 1-7 which has one or more of the following activities:
(i) killing of a cell expressing CLDN6,
(ii) inhibition of proliferation of a cell expressing CLDN6,
(iii) inhibition of colony formation of a cell expressing CLDN6,
(iv) mediating remission of established tumors,
(v) preventing formation or re-formation of tumors, and
(vi) inhibition of metastasis of a cell expressing CLDN6.

9. The antibody of any one of claims 1-8, which exhibits one or more immune effector functions against a cell carrying CLDN6 in its native conformation.

10. The antibody of claim 9, wherein the one or more immune effector functions are selected from the group consisting of complement dependent cytotoxicity (CDC), antibody-dependent cell-mediated cytotoxicity (ADCC), induction of apoptosis, and inhibition of proliferation, preferably the effector functions are ADCC and/or CDC.

11. The antibody of any one of claims 8-10, wherein said one or more activities or one or more immune effector functions are induced by binding of said antibody to an epitope located within an extracellular portion of CLDN6.

12. The antibody of any one of claims 1-11, wherein said cell expressing CLDN6 or cell carrying CLDN6 in its native conformation is a tumor cell.

13. The antibody of any one of claims 1-12, wherein said cell expressing CLDN6 or cell carrying CLDN6 in its native conformation is a cancer cell.

14. The antibody of claim 13, wherein the cancer cell is from a cancer selected from the group consisting of ovarian cancer, in particular ovarian adenocarcinoma and ovarian teratocarcinoma, lung cancer, including small cell lung cancer (SCLC) and non-small cell lung cancer (NSCLC), in particular squamous cell lung carcinoma and adenocarcinoma, gastric cancer, breast cancer, hepatic cancer, pancreatic cancer, skin cancer, in particular basal cell carcinoma and squamous cell carcinoma, malignant melanoma, head and neck cancer, in particular malignant pleomorphic adenoma, sarcoma, in particular synovial sarcoma and carcinosarcoma, bile duct cancer, cancer of the urinary bladder, in particular transitional cell carcinoma and papillary carcinoma, kidney cancer, in particular renal cell carcinoma including clear cell renal cell carcinoma and papillary renal cell carcinoma, colon cancer, small bowel cancer, including cancer of the ileum, in particular small bowel adenocarcinoma and adenocarcinoma of the ileum, testicular embryonal carcinoma, placental choriocarcinoma, cervical cancer, testicular cancer, in particular testicular seminoma, testicular teratoma and embryonic testicular cancer, uterine cancer, a germ cell tumor such as a teratocarcinoma or an embryonal carcinoma, in particular a germ cell tumor of the testis, and the metastatic forms thereof.

15. The antibody of any one of claims 1-14, which is a monoclonal, chimeric, human or humanized antibody, or an antigen-binding fragment of an antibody.

16. The antibody of any one of claims 1-15, which is capable of binding to one or more epitopes of CLDN6 in their native conformation.

17. A conjugate comprising an antibody of any one of claims 1-16 coupled to a therapeutic agent.

18. The conjugate of claim 17, wherein the therapeutic agent is a toxin, a radioisotope, a drug or a cytotoxic agent.

19. A pharmaceutical composition comprising the antibody of any one of claims 1-16 and/or a conjugate of claim 17 or 18, and a pharmaceutically acceptable carrier.

20. The pharmaceutical composition of claim 19 for use in a method of inhibiting growth of a cell expressing CLDN6 and being characterized by association of CLDN6 with its cell surface.

21. The pharmaceutical composition of claim 19 for use in a method of killing a cell expressing CLDN6 and being characterized by association of CLDN6 with its cell surface.

22. The pharmaceutical composition of claim 19 for use in a method of treating or preventing a disease or disorder involving a cell expressing CLDN6 and being characterized by association of CLDN6 with its cell surface in a subject.

23. The pharmaceutical composition of claim 22, wherein the disease or disorder is a tumor-related disease.

24. The pharmaceutical composition of claim 23, wherein the tumor-related disease is cancer.

25. The pharmaceutical composition of claim 24, wherein the cancer is selected from the group consisting of ovarian cancer, in particular ovarian adenocarcinoma and ovarian teratocarcinoma, lung cancer, including small cell lung cancer (SCLC) and non-small cell lung cancer (NSCLC), in particular squamous cell lung carcinoma and adenocarcinoma, gastric cancer, breast cancer, hepatic cancer, pancreatic cancer, skin cancer, in particular basal cell carcinoma and squamous cell carcinoma, malignant melanoma, head and neck cancer, in particular malignant pleomorphic adenoma, sarcoma, in particular synovial sarcoma and carcinosarcoma, bile duct cancer, cancer of the urinary bladder, in particular transitional cell carcinoma and papillary carcinoma, kidney cancer, in particular renal cell carcinoma including clear cell renal cell carcinoma and papillary renal cell carcinoma, colon cancer, small bowel cancer, including cancer of the ileum, in particular small bowel adenocarcinoma and adenocarcinoma of the ileum, testicular embryonal carcinoma, placental choriocarcinoma, cervical cancer, testicular cancer, in particular testicular

seminoma, testicular teratoma and embryonic testicular cancer, uterine cancer, a germ cell tumor such as a teratocarcinoma or an embryonal carcinoma, in particular a germ cell tumor of the testis, and the metastatic forms thereof.

26. A pharmaceutical composition comprising the antibody of any one of claims 1-16 and/or a conjugate of claim 17 or 18 for use in a method of inhibiting metastatic spread of a cell expressing CLDN6 and being characterized by association of CLDN6 with its cell surface.

27. Use of an antibody of any one of claims 1-16 and/or a conjugate of claim 17 or 18 for the preparation of a pharmaceutical composition for treating a disease or disorder involving a cell expressing CLDN6 and being characterized by association of CLDN6 with its cell surface in a subject.

28. The use of claim 27, wherein the disease is a cancer disease.

29. The use of claim 28, wherein the cancer is selected from the group consisting of ovarian cancer, in particular ovarian adenocarcinoma and ovarian teratocarcinoma, lung cancer, including small cell lung cancer (SCLC) and non-small cell lung cancer (NSCLC), in particular squamous cell lung carcinoma and adenocarcinoma, gastric cancer, breast cancer, hepatic cancer, pancreatic cancer, skin cancer, in particular basal cell carcinoma and squamous cell carcinoma, malignant melanoma, head and neck cancer, in particular malignant pleomorphic adenoma, sarcoma, in particular synovial sarcoma and carcinosarcoma, bile duct cancer, cancer of the urinary bladder, in particular transitional cell carcinoma and papillary carcinoma, kidney cancer, in particular renal cell carcinoma including clear cell renal cell carcinoma and papillary renal cell carcinoma, colon cancer, small bowel cancer, including cancer of the ileum, in particular small bowel adenocarcinoma and adenocarcinoma of the ileum, testicular embryonal carcinoma, placental choriocarcinoma, cervical cancer, testicular cancer, in particular testicular seminoma, testicular teratoma and embryonic testicular cancer, uterine cancer, a germ cell tumor such as a teratocarcinoma or an embryonal carcinoma, in particular a germ cell tumor of the testis, and the metastatic forms thereof.