

**[4]** MUC17 is aberrantly expressed in some cancers. MUC17 mRNA was shown to be expressed in one pancreatic cancer cell line and three colon cancer cell lines (Gum et al. 2002). Immunohistochemistry studies confirmed expression of the MUC17 protein in pancreatic cancer ((Moniaux et al. 2006). In colon cancer, however, MUC17 protein expression was shown to be decreased (Senapati et al., J. Clin. Pathol. 2010). Nevertheless, the expression patterns of MUC17 make it a potential target for the treatment of different forms of malignancy. Clinical trials using anti-MUC17 antibody constructs were initiated to test their suitability for treating gastrointestinal cancer and gastroesophageal junction cancer (clinicaltrials.gov; NCT04117958).

### **Summary**

**[5]** In view of the conflicting implications in the literature about MUC17 as a potential target for which pathological condition, it is the object of the present disclosure to clearly identify specific conditions associated with MUC17 upregulation and to provide binders (e.g. antibodies) that selectively bind MUC17 for use as diagnostic tool in a MUC17-associated condition, preferably for use in the detection/diagnosis of said specific conditions and/or in the monitoring of disease status prior to, concurrent with and subsequent to a therapeutic invention. Monitoring serves to determine the success of a given treatment and permits to the treating physician to determine as to whether the treatment is effective or is insufficient and needs to be modified.

**[6]** Ideally, the diagnostic antibody binds to a region that is like the region identified or targeted by therapeutic antibody constructs. As tumor antigens can present themselves in different splice forms or may have mutations affecting the three-dimensional structure of the target it is desirable to verify that the target of the therapeutic antibody exists in a given patient and that such patient qualifies as being eligible to such treatment. When the target regions of a tumor antigen are not present in a given patient, treatment with a selectively binding therapeutic antibody construct may not be favorable in view of potential adverse events associated with the treatment. Further, patients would not be subjected to an inappropriate and potentially disadvantageous, exhausting and cost-intensive treatment and could rather be treated with alternative treatment methods that shows more promise as being effective. It should be kept in mind that patients that are subjected to immunotherapy are generally critically ill patients. Often such patients are refractory to first line therapies or have experienced relapses and/or have metastases that do not respond to the initial therapy. It is not desirable to treat such patients without having a clear diagnostic basis that a treatment with an immunotherapeutic compound is reasonable and medically founded.

**[7]** Accordingly, the present disclosure provides an antibody binding to MUC17. The antibody may be used in diagnostic methods on tissue samples obtained from an individual, particularly

from a patient suspected to have a neoplastic disease associated and/or identifiable by an aberrating MUC17 expression, e.g. a gastrointestinal cancer, pancreatic cancer, etc..

**[8]** The antibody may also serve as a diagnostic tool in the detection of MUC17 in laboratory animals, for example in previously sacrificed cancer-bearing animals.

**[9]** Moreover, the disclosure provides a polynucleotide encoding the antibody construct, a vector comprising this polynucleotide, and host cells expressing the construct as well as diagnostic compositions comprising the same and kits comprising the antibody of the present disclosure as diagnostic tool alongside further ingredients comprising, but not limited to, at least one of secondary antibodies, enzymes, buffers, instructions for use, tools for calibration, controls, and to forth.

[9a] In one aspect, the present disclosure provides an antibody that binds to human MUC17 as depicted in SEQ ID NO: 1, wherein said antibody binds cell surface-associated MUC17 protein, wherein said antibody comprises a variable heavy chain comprising a CDR3 region depicted in SEQ ID NO: 4, a heavy chain CDR1 and CDR2 regions as depicted in SEQ ID Nos: 2 and 3 and the light chain CDR1, CDR2 and CDR3 regions depicted in SEQ ID Nos: 6, 7, and 8. In another aspects of the present disclosure provide a polynucleotide encoding an antibody as described herein; a host cell transformed or transfected with the polynucleotide as described herein; a composition comprising an antibody as described herein; a detection system comprising the antibody as described herein.

[9b] Yet other aspects of the present disclosure provide use of an antibody as described herein in a diagnostic method; a method of detecting neoplastic growth using the antibody, the composition or the detection system as described herein.

[9c] Another aspect of the present disclosure provides a method for detecting and/or quantifying MUC17 expression in a sample, comprising the steps of: (a) using an antibody or using a detection system as described herein, for determining the expression quantity of MUC17 in a sample; and (b) comparing the expression quantity of MUC17 determined in step (a) to (i) a pre-defined value for the MUC17 expression quantity, (ii) the expression quantity of MUC17 determined in a control sample, or (iii) the expression quantity of MUC17 determined in a sample obtained from the same source or subject at a previous time point.

[9d] Another aspect of the present disclosure provides an *in vitro* method for diagnosing a neoplastic disease associated with expression quantity of MUC17 or increased expression quantity of MUC17, comprising the steps of: (a) using an antibody or a composition, or using a detection system as described herein, for determining the expression quantity of MUC17 in a sample; and (b) comparing the expression quantity of MUC17 determined in step (a) to

- (i) a pre-defined cut-off value for the expression quantity of MUC17, indicating absence of such disease, or
- (ii) the expression quantity of MUC17 determined in a negative control sample representing absence of such neoplastic disease,

wherein a higher expression quantity of MUC17 determined in step (a) as compared to the pre-defined cut-off value of (i) or the expression quantity of MUC17 determined in the negative control sample of (ii) indicates the presence of a disease associated with expression of MUC17 or increased expression quantity of MUC17.

[9e] Another aspect of the present disclosure provides an *in vitro* method for monitoring the progression of a disease associated with expression of MUC17 or with increased expression quantity of MUC17 or for monitoring the response to treatment of a disease associated with expression of MUC17 or with increased expression quantity of MUC17, comprising the steps of: (a) using an antibody, or using a detection system as described herein, for determining the expression quantity of MUC17 at a first time point in a sample obtained from a subject diagnosed with such disease; (b) using an antibody, or using a detection system as described herein, for determining the expression quantity of MUC17 at a second time point or after treatment in a sample obtained from the subject; and (c) comparing the expression quantity of MUC17 determined in step (a) to the expression quantity of MUC17 determined in step (b); wherein a higher expression quantity of MUC17 determined in step (a) as compared to the expression quantity of MUC17 determined in step (b) indicates that the disease is progressing, and/or wherein a lower expression quantity of MUC17 determined in step (a) as compared to the expression quantity of MUC17 determined in step (b) indicates that said disease is entering remission or that said disease is responding to the treatment.

[9f] Another aspect of the present disclosure provides use of a drug in the manufacture of a medicament for treating at least one cancer, wherein the cancer is selected from the group consisting of esophageal cancer, gastric cancer, gastrointestinal cancer, gastroesophageal cancer, including gastroesophageal junction cancer, and/or pancreas cancer, wherein said patient has an increased expression of MUC17 on a cancer cell, particularly a cell of a colorectal carcinoma, a gastric carcinoma, a pancreatic carcinoma, colon adenocarcinoma, esophageal carcinoma, pancreatic adenocarcinoma, rectum adenocarcinoma, and stomach adenocarcinoma, wherein said increased expression was determined in a method as described herein, or wherein the use as described herein is comprised; and wherein the drug is an antibody construct comprising at least two domains, wherein one domain binds selectively to MUC17.

[9g] Another aspect of the present disclosure provides a diagnostic kit comprising the antibody or the composition and/or detection system as described herein.

### Examples of the disclosure

**[10]** In a first example, the present disclosure relates to an antibody that binds to human MUC17 as depicted in SEQ ID NO: 1, wherein said antibody binds cell surface-associated MUC17 protein.

**[11]** In a second example, the present disclosure relates to an antibody that binds to human MUC17 as depicted in SEQ ID NO: 1, wherein said antibody binds cell surface-associated MUC17 protein, wherein said antibody comprises a variable heavy chain comprising a CDR3 region depicted in SEQ ID NO: 4.

**[12]** In a third example, the present disclosure relates to an antibody according to examples 1 and 2, wherein said antibody further comprising the heavy chain CDR1 and CDR2 regions as depicted in SEQ ID Nos: 2 and 3 and/or the light chain CDR1, CDR2 and/or CDR3 regions depicted in SEQ ID Nos: 6, 7 and 8.

**[13]** In a fourth example, the present disclosure relates to an antibody according to any one of the preceding examples, wherein the monoclonal antibody comprises a VH region and/or a VL region comprised by the sequences depicted in SEQ ID NOs: 5 and 9.

**[14]** In a fifth example, the present disclosure relates to an antibody according to any one of the preceding examples, wherein the antibody is a monoclonal antibody.

**[15]** In a sixth example, the present disclosure relates to an antibody according to any one of the preceding examples, wherein the antibody specifically binds to human and cynomolgus monkey MUC17 in immunohistochemistry assays, to MUC17 expressing cells in fluorescence activated cell sorting assays, and to MUC17 expressing fixed and permeabilized cells, optionally wherein the antibody does not bind to the secreted form of huMUC17.

**[16]** In a seventh example, the present disclosure relates to an antibody according to any one of the preceding examples, wherein the antibody comprises a VH region comprised in SEQ ID NO: 5 and a VL region according to SEQ ID NO: 9.

**[17]** In an eighth example, the present disclosure relates to an antibody according to any one of the preceding examples, which is an IgG, IgD, IgE, IgM or IgA antibody, preferably an IgG antibody, such as an IgG1, IgG2, IgG3 or IgG4 antibody.

**[18]** Within said example, it is further envisaged in the context of the present disclosure to provide an antibody construct, wherein the first domain of the antibody construct binds to an epitope within MUC17 which corresponds to amino acids 4171 to 4296 according to uniprot Q685J3 numbering.

**[19]** Within said example, it is also envisaged in the context of the present disclosure to provide an antibody construct, wherein the first domain of the antibody construct binds to an epitope within MUC17 which corresponds to amino acids 4184 to 4291 according to uniprot Q685J3 numbering.

**[20]** Within said example, it is further envisaged in the context of the present disclosure to provide an antibody construct, wherein the first domain of the antibody construct binds to an epitope within MUC17 which corresponds to amino acids 4131 to 4243 according to uniprot Q685J3 numbering.

**[21]** Within said example, it is also envisaged in the context of the present disclosure to provide an antibody construct, wherein the first domain of the antibody construct binds to an epitope within MUC17 which corresponds to amino acids 4244 to 4389 according to uniprot Q685J3 numbering.

**[22]** Within said example, it is further envisaged in the context of the present disclosure to provide an antibody construct, wherein the first domain of the antibody construct binds to an epitope within MUC17 which corresponds to amino acids 4131 to 4243 according to uniprot Q685J3 numbering, but not to an epitope within MUC17 which corresponds to amino acids 4244 to 4389 according to uniprot Q685J3 numbering.

**[23]** Within said example, it is also envisaged in the context of the present disclosure to provide an antibody construct, wherein the first domain of the antibody construct binds to an epitope within MUC17 which corresponds to amino acids 4171 to 4390 according to uniprot Q685J3 numbering or amino acids 4184 to 4390 according to uniprot Q685J3 numbering but not to an epitope within MUC17 which corresponds to amino acids 4291 to 4390 according to uniprot Q685J3 numbering or to an epitope within MUC17 which corresponds to amino acids 4341 to 4390 according to uniprot Q685J3 numbering.

**[24]** In a ninth example, the present disclosure relates to a polynucleotide encoding an antibody as defined in any one of the preceding examples.

**[25]** In a tenth example, the present disclosure relates to vector comprising the polynucleotide as defined in example nine.

**[26]** In an 11<sup>th</sup> example, the present disclosure relates to host cells transformed or transfected with the polynucleotide as defined in the tenth example or with the vector as defined in ninth example.

**[27]** In a 12th example, the present disclosure relates to a process for producing an antibody as defined in any one of examples one to eight, said process comprising culturing a host cell as defined in example ten under conditions allowing the expression of said antibody and recovering the produced antibody from the culture.

**[28]** In a 13th example, the present disclosure relates to hybridoma producing the antibody according to any one of the preceding examples one through eight.

**[29]** In a 14<sup>th</sup> example, the present disclosure relates to a composition comprising an antibody as defined in any one of examples one to eight, or as produced according to the process of the 12<sup>th</sup> example.

**[30]** In a 15<sup>th</sup> example, the present disclosure relates to a detection system comprising the antibody as defined in any one of examples 1 to 8, or as produced according to the process of example 12.

**[31]** In a 16<sup>th</sup> example, the present disclosure relates to a use of an antibody as defined in any one of example 1-8 or as produced according to the process of example 12 or of the detection system of example 15 in a diagnostic method.

**[32]** In a 17<sup>th</sup> example, the present disclosure relates to an antibody as defined in any one of example 1-8 or as produced according to the process of example 12, the composition of example 14, or of the detection system of example 15 for use in a method of detecting neoplastic growth.

**[33]** In an 18<sup>th</sup> example, the present disclosure relates to the antibody or detection system for use according to example 17 in a method of detecting neoplastic growth comprising determining the quantity of expression of MUC17 in a sample from a patient suspected to suffer from a cancer and in a negative control sample and, optionally, in a positive control sample.

**[34]** In a 19<sup>th</sup> example, the present disclosure relates to the antibody or detection system for use according to any one of example 17 and 18 in a method of detecting neoplastic growth comprising determining the quantity of expression of MUC17 in a sample from a patient suspected to suffer from a cancer and in a negative control sample, further comprising comparing the expression quantities of MUC17 between the samples, optionally wherein the expression quantities in the negative control and/or the positive control may be derived from stored data in at least one negative control sample and/or at least one positive control sample obtained in a method of detecting neoplastic growth comprising determining the quantity of expression of MUC17, further optionally, wherein the expression quantities in the negative control sample and/or the positive control sample may be derived from stored data comprising averaged expression quantities of more than one negative control sample and/or more than one positive control sample obtained in a method of detecting neoplastic growth comprising determining the quantity of expression of MUC17.

**[35]** In a 20<sup>th</sup> example, the present disclosure relates to the antibody or detection system for use according to any one of example 17 and 19 in a method of detecting neoplastic growth comprising determining the quantity of expression of MUC17 in a sample, wherein the sample is either a solid tissue sample or a liquid tissue sample.

**[36]** In a 21<sup>th</sup> example, the present disclosure relates to a method for detecting and/or quantifying MUC17 expression in a sample, comprising the steps of:

- (a) using an antibody as defined in or produced according to any one of the preceding examples, or using a detection system of example 15, for determining the expression quantity of MUC17 in a sample; and
- (b) comparing the expression quantity of MUC17 determined in step (a) to
- (c) a pre-defined value for the MUC17 expression quantity,
- (d) the expression quantity of MUC17 determined in a control sample, or
- (e) the expression quantity of MUC17 determined in a sample obtained from the same source or subject at a previous time point.

**[37]** In a 22nd example, the present disclosure relates to a method for diagnosing a neoplastic disease associated with expression quantity of MUC17 or increased expression quantity of MUC17, comprising the steps of:

- (a) using an antibody as defined in or produced according to any one of example, or using a detection system of example 15, for determining the expression quantity of MUC17 in a sample; and
- (b) comparing the expression quantity of MUC17 determined in step (a) to
- (c) a pre-defined cut-off value for the expression quantity of MUC17, indicating absence of such disease, or
- (d) the expression quantity of MUC17 determined in a negative control sample representing absence of such neoplastic disease,

wherein a higher expression quantity of MUC17 determined in step (a) as compared to the pre-defined cut-off value of (i) or the expression quantity of MUC17 determined in the negative control sample of (ii) indicates the presence of a disease associated with expression of MUC17 or increased expression quantity of MUC17.

**[38]** In a 23rd example, the present disclosure relates to a method for monitoring the progression of a disease associated with expression of MUC17 or with increased expression quantity of MUC17 or for monitoring the response to treatment of a disease associated with expression of MUC17 or with increased expression quantity of MUC17, comprising the steps of:

- (a) using an antibody as defined in any one of the preceding examples, or using a detection system of example 15, for determining the expression quantity of MUC17 at a first time point in a sample obtained from a subject diagnosed with such disease;

- (b) using an antibody as defined in any one of the preceding examples, or using a detection system of example 15, for determining the expression quantity of MUC17 at a second time point or after treatment in a sample obtained from the subject; and
- (c) comparing the expression quantity of MUC17 determined in step (a) to the expression quantity of MUC17 determined in step (b);

wherein a higher expression quantity of MUC17 determined in step (a) as compared to the expression quantity of MUC17 determined in step (b) indicates that the disease is progressing, and/or wherein a lower expression quantity of MUC17 determined in step (a) as compared to the expression quantity of MUC17 determined in step (b) indicates that said disease is entering remission or that said disease is responding to the treatment.

**[39]** In a 24<sup>th</sup> example, the present disclosure relates to the use or the product for use of any one of examples 16 to 20 or the method of any one of example 21 to 23, wherein the sample is a biological sample, preferably a human biological sample, such as a tissue sample, or a sample comprising cultured cells.

**[40]** In a 25<sup>th</sup> example, the present disclosure relates to the use or the product for use of any one of example 16 to 20 or the method of any one of example 21 to 24, wherein the sample is obtained from a human subject, preferably a human subject suspected of having or having a disease associated with expression of MUC17 or increased expression quantity of MUC17, or a subject having received treatment for a disease associated with expression of MUC17 or increased expression quantity of MUC17.

**[41]** In a 26<sup>th</sup> example, the present disclosure relates to the use or the product for use of any one of example 16 to 20 or the method of any one of example 21 to 25, wherein the disease is selected from the group comprising esophageal cancer, gastric cancer, gastroesophageal cancer (including gastroesophageal junction cancer, GJC) gastrointestinal cancer, and pancreas cancer.

**[42]** In a 27<sup>th</sup> example, the present disclosure relates to the use of the any of the products as defined herein above for the detection of MUC17 expression in a immunohistochemical method (IHC method) comprising the steps of providing a sample of a tissue (including a liquid biopsy material, e.g. cells obtained from an individual or animal or from cell culture). The sample material is generally provided on a support, e.g. a carrier such as a glass or plastic slide. The tissue may be fixed using fixation media known in the art such as paraffin, ethanol, or acetone, or any other suitable medium that ensure fixation of a tissue or cells on a support. The sample are subsequently prepared, e.g. deparaffinated, incubated with media permitting access of the herein described antibodies to the target of interest, here MUC17. The tissues are subsequently incubated with a medium comprising a sufficient amount of the antibodies

disclosed herein to allow these antibodies to bind to MUC17 that is present in the tissue sample. After a commonly known and reasonable amount of time the incubation of the tissue with the antibody is stopped, generally by washing the support and tissue in a medium such as PBS. Both, incubation steps and washing steps may be performed at room temperature, but elevated temperatures or lower temperatures, e.g. from 2 – 50°C are possible. Generally, the incubation temperature depends on the duration of the incubation time. For example, it is possible to stain tissues overnight at 4°C, but it is equally possible to shorten the incubation time to only a few minutes at higher temperatures, e.g., at about 30 to 40°C, e.g. at 37 °C. To check the influence of the incubation media, fixation medium, the incubation time and temperature, tests are usually performed with positive control material that are known to express the target (here MUC17), and with negative controls of sample that are known as not expressing MUC17. A negative control may also (optionally, additionally) be performed using the antibody product of the present disclosure, and blocking epitopes, i.e. epitopes that correspond to those that are recognized or bound specifically / selectively by the herein described antibodies. These blocking epitopes are added in a titration assay to a positive control material. A concentration of the epitopes that prevent the antibody of the present disclosure to specifically and/or selectively detect MUC17 may thus be determined. This way, a positive control – in the presence of the blocking epitope – no longer serves as positive control, because the amount of antibody binding MUC17 is blocked by a sufficient amount of blocking epitopes that saturate the antibodies. Determining the correct amount of blocking epitopes and antibodies to conduct appropriate positive and negative controls is a matter known to a person skilled in the technique of immunocytochemistry and particularly immunohistochemistry. Once the appropriate

## Claims

1. An antibody that binds to human MUC17 as depicted in SEQ ID NO: 1, wherein said antibody binds cell surface-associated MUC17 protein, wherein said antibody comprises a variable heavy chain comprising a CDR3 region depicted in SEQ ID NO: 4, a heavy chain CDR1 and CDR2 regions as depicted in SEQ ID Nos: 2 and 3 and the light chain CDR1, CDR2 and CDR3 regions depicted in SEQ ID Nos: 6, 7, and 8.
2. The antibody according to any one of the preceding claims, wherein the antibody comprises a VH region and/or a VL region as comprised in SEQ ID Nos: 5 and/or 9.
3. A polynucleotide encoding an antibody as defined in any one of the preceding claims.
4. A host cell transformed or transfected with the polynucleotide as defined in claim 3.
5. A composition comprising an antibody as defined in any one of claims 1 and 2.
6. A detection system comprising the antibody as defined in any one of claims 1 and 2, or a composition according to claim 5.
7. Use of an antibody as defined in any one of claims 1 and 2 in a diagnostic method.
8. A method of detecting neoplastic growth using the antibody as defined in any one of claims 1 to 2, the composition of claim 5 or the detection system of claim 6.
9. The method according to claim 8 further comprising determining the quantity of expression of MUC17 in a sample from a patient suspected to suffer from a cancer and, optionally, in a negative control sample and, further optionally, in a positive control sample.
10. The method according to any one of claims 8 and 9 further comprising determining the quantity of expression of MUC17 in a sample from a patient suspected to suffer from a cancer and in a negative control sample, further comprising comparing the expression quantities of MUC17 between the samples, optionally wherein the expression quantities in the negative control and/or the positive control may be derived from stored data in at least one negative control sample and/or at least one positive control sample obtained in a method of detecting neoplastic growth comprising determining the quantity of expression of MUC17, further optionally, wherein the expression quantities in the negative control sample and/or the positive control sample may be derived from stored data comprising averaged expression quantities of more than one negative control sample and/or more than one positive control sample obtained in a method of detecting neoplastic growth comprising determining the quantity of expression of MUC17.

11. The method according to any one of claims 9 and 10 further comprising determining the quantity of expression of MUC17 in a sample, wherein the sample is either a solid tissue sample or a liquid tissue sample.
12. A method for detecting and/or quantifying MUC17 expression in a sample, comprising the steps of:
  - (a) using an antibody as defined in any one of the preceding claims, or using a detection system of claim 6, for determining the expression quantity of MUC17 in a sample; and
  - (b) comparing the expression quantity of MUC17 determined in step (a) to
    - (i) a pre-defined value for the MUC17 expression quantity,
    - (ii) the expression quantity of MUC17 determined in a control sample, or
    - (iii) the expression quantity of MUC17 determined in a sample obtained from the same source or subject at a previous time point.
13. An *in vitro* method for diagnosing a neoplastic disease associated with expression quantity of MUC17 or increased expression quantity of MUC17, comprising the steps of:
  - (a) using an antibody or a composition as defined in the preceding claims, or using a detection system of claim 6, for determining the expression quantity of MUC17 in a sample; and
  - (b) comparing the expression quantity of MUC17 determined in step (a) to
    - (i) a pre-defined cut-off value for the expression quantity of MUC17, indicating absence of such disease, or
    - (ii) the expression quantity of MUC17 determined in a negative control sample representing absence of such neoplastic disease,

wherein a higher expression quantity of MUC17 determined in step (a) as compared to the pre-defined cut-off value of (i) or the expression quantity of MUC17 determined in the negative control sample of (ii) indicates the presence of a disease associated with expression of MUC17 or increased expression quantity of MUC17.

14. An *in vitro* method for monitoring the progression of a disease associated with expression of MUC17 or with increased expression quantity of MUC17 or for monitoring the response to treatment of a disease associated with expression of MUC17 or with increased expression quantity of MUC17, comprising the steps of:
  - (a) using an antibody as defined in any one of the preceding claims, or using a detection system of claim 6, for determining the expression quantity of MUC17 at a first time point in a sample obtained from a subject diagnosed with such disease;

- (b) using an antibody as defined in any one of the preceding claims, or using a detection system of claim 6, for determining the expression quantity of MUC17 at a second time point or after treatment in a sample obtained from the subject; and
- (c) comparing the expression quantity of MUC17 determined in step (a) to the expression quantity of MUC17 determined in step (b);

wherein a higher expression quantity of MUC17 determined in step (a) as compared to the expression quantity of MUC17 determined in step (b) indicates that the disease is progressing, and/or wherein a lower expression quantity of MUC17 determined in step (a) as compared to the expression quantity of MUC17 determined in step (b) indicates that said disease is entering remission or that said disease is responding to the treatment.

15. The use of any one of claim 7 or the method of any one of claims 8 to 14, wherein the disease is selected from the group comprising esophageal cancer, gastric cancer, gastrointestinal cancer, gastroesophageal cancer, including gastroesophageal junction cancer, and pancreas cancer.

16. Use of a drug in the manufacture of a medicament for treating at least one cancer, wherein the cancer is selected from the group consisting of esophageal cancer, gastric cancer, gastrointestinal cancer, gastroesophageal cancer, including gastroesophageal junction cancer, and/or pancreas cancer, wherein said patient has an increased expression of MUC17 on a cancer cell, particularly a cell of a colorectal carcinoma, a gastric carcinoma, a pancreatic carcinoma, colon adenocarcinoma, esophageal carcinoma, pancreatic adenocarcinoma, rectum adenocarcinoma, and stomach adenocarcinoma, wherein said increased expression was determined in a method according to any one of claims 8 to 14, or wherein the use of claim 7 is comprised; and wherein the drug is an antibody construct comprising at least two domains, wherein one domain binds selectively to MUC17.

17. A diagnostic kit comprising the antibody or the composition and/or detection system according to any one of claims 1, 2, 5 and 6.