Claims

1. A method of diagnosing a cancer disease characterized by an increased expression of a tumor-associated antigen, which method comprises
(i) detection of a nucleic acid which codes for the tumor-associated antigen, and/or
(ii) detection of the tumor-associated antigen,
in a biological sample isolated from a patient, with said tumor-associated antigen having a sequence encoded by a nucleic acid which is selected from the group consisting of:
(a) a nucleic acid which comprises a nucleic acid sequence selected from the group consisting of SEQ ID NOs: 7, 8, 117, and 119, and
(b) a nucleic acid which is at least 95% identical to the nucleic acid of (a).

2. The method as claimed in claim 1, in which the detection comprises
(i) contacting the biological sample with an agent which binds specifically to the nucleic acid coding for the tumor-associated antigen or to the tumor-associated antigen, and
(ii) detecting the formation of a complex between the agent and the nucleic acid or the tumor-associated antigen.

3. The method as claimed in claim 1 or 2, in which the detection is compared to detection in a comparable normal biological sample.

4. The method as claimed in any of claims 1-3, in which the disease is characterized by expression of two or more different tumor-associated antigens and in which detection comprises detection of two or more nucleic acids coding for said two or more

different tumor-associated antigens or detection of said two or more different tumor-associated antigens.

5. The method as claimed in any of claims 1-4, in which the nucleic acid is detected using a polynucleotide probe which hybridizes specifically to said nucleic acid.

6. The method as claimed in claim 5, in which the polynucleotide probe comprises a sequence of 6-50 contiguous nucleotides of the nucleic acid coding for the tumor-associated antigen.

7. The method as claimed in any of claims 1-4, in which the nucleic acid is detected by selectively amplifying said nucleic acid.

~~8. The method as claimed in any of claims 1-4, in which the tumor-associated antigen to be detected or a part thereof are in a complex with an MHC molecule.~~

~~9. The method as claimed in claim 8, in which the MHC molecule is an HLA molecule.~~

~~10~~8. The method as claimed in any of claims 1-4~~ and 8-9~~, in which the tumor-associated antigen is detected using an antibody binding specifically to said tumor-associated antigen.

~~11~~9. A method for determining regression, course or onset of a cancer disease characterized by an increased expression of a tumor-associated antigen, which method comprises monitoring a sample from a patient who has said disease or is suspected of falling ill with said disease, with

respect to one or more parameters selected from the group consisting of:
(i) the amount of nucleic acid which codes for the tumor-associated antigen, and
(ii) the amount of the tumor-associated antigen,
said tumor-associated antigen having a sequence encoded by a nucleic acid which is selected from the group consisting of:
(a) a nucleic acid which comprises a nucleic acid sequence selected from the group consisting of SEQ ID NOs: 7, 8, 117, and 119, and
(b) a nucleic acid which is at least 95% identical to the nucleic acid of (a).

~~12~~10. The method as claimed in claim ~~11~~9, which comprises determining the parameter(s) in a first sample at a first point in time and in a further sample at a second point in time and in which the course of the disease is determined by comparing the two samples.

~~13~~11. The method as claimed in any of claims ~~11-12~~9-10, in which the amount of the nucleic acid is monitored using a polynucleotide probe which hybridizes specifically to said nucleic acid.

~~14~~12. The method as claimed in claim ~~13~~11, in which the polynucleotide probe comprises a sequence of 6-50 contiguous nucleotides of the nucleic acid coding for the tumor-associated antigen.

~~15~~13. The method as claimed in any of claims ~~11-12~~9-10, in which the amount of the nucleic acid is monitored by selectively amplifying said nucleic acid.

~~16~~14. The method as claimed in any of claims ~~11-12~~9-

10, in which the amount of the tumor-associated antigen is monitored using an antibody binding specifically to said tumor-associated antigen.

~~17~~15. The method as claimed in any of claims 5-6, ~~10, 13-14 and 16~~8, 11-12, and 14, in which the polynucleotide probe or the antibody is labeled in a detectable manner.

~~18~~16. The method as claimed in claim ~~17~~15, in which the detectable marker is a radioactive marker or an enzymic marker.

~~19~~17. The method as claimed in any of claims 1-~~18~~16, in which the sample comprises body fluid and/or body tissue.

~~20~~18. Use of an antibody for the preparation of a medicament for treating a cancer disease characterized by an increased expression of a tumor-associated antigen,
wherein said antibody binds to the tumor-associated antigen, said tumor-associated antigen having a sequence encoded by a nucleic acid which is selected from the group consisting of:
(a) a nucleic acid which comprises a nucleic acid sequence selected from the group consisting of SEQ ID NOs: 7, 8, 117, and 119, and
(b) a nucleic acid which is at least 95% identical to the nucleic acid of (a).

~~21~~19. Use of an antibody for the preparation of a medicament for diagnosing or treating a cancer disease characterized by an increased expression of a tumor-associated antigen, wherein said antibody binds to the tumor-associated antigen and is coupled to a therapeutic or diagnostic agent,

said tumor-associated antigen having a sequence encoded by a nucleic acid which is selected from the group consisting of:

(a) a nucleic acid which comprises a nucleic acid sequence selected from the group consisting of SEQ ID NOs: 7, 8, 117, and 119, and

(b) a nucleic acid which is at least 95% identical to the nucleic acid of (a).

~~22~~20. The method as claimed in claim ~~10~~8 or ~~16~~14, or the use as claimed in claim ~~20~~18 or ~~21~~19, in which the antibody is a monoclonal antibody, a chimeric or humanized antibody, or an antigen-binding fragment of an antibody.

~~23~~21. The method as claimed in any of claims 1-~~19~~17 or ~~22~~20 or the use as claimed in any of claims ~~20-22~~18-20, in which the tumor-associated antigen comprises an amino acid sequence selected from the group consisting of SEQ ID NOs: 16-19, 111-116, 118, 120, and 137.

~~24~~22. A kit for diagnosing a cancer disease characterized by an increased expression of a tumor-associated antigen, which kit comprises agents for detection

(i) of the nucleic acid which codes for the tumor-associated antigen, and/or

(ii) of the tumor-associated antigen,

said tumor-associated antigen having a sequence encoded by a nucleic acid which is selected from the group consisting of:

(a) a nucleic acid which comprises a nucleic acid sequence selected from the group consisting of SEQ ID NOs: 7, 8, 117, and 119, and

(b) a nucleic acid which is at least 95% identical to the nucleic acid of (a).

~~25~~23. The kit as claimed in claim ~~24~~22, in which the agents for detection of the nucleic acid which codes for the tumor-associated antigen are nucleic acid molecules for selective amplification of said nucleic acid.

~~26~~24. The kit as claimed in claim ~~25~~23, in which the nucleic acid molecules for selective amplification of the nucleic acid comprise a sequence of 6-50 contiguous nucleotides of the nucleic acid which codes for the tumor-associated antigen.

25. The method as claimed in any of claims 1-17 or 20 or 21 or the use as claimed in any of claims 18-21 or the kit as claimed in any of claims 22-24, wherein said cancer disease is a cancer or tumor characterized by the increased expression of a tumor-associated antigen, said tumor-associated antigen being encoded by
(a) a nucleic acid comprising the nucleic acid sequence of SEQ ID NO: 7 or 8, or
(b) a nucleic acid which is at least 95% identical to the nucleic acid of (a),
and wherein said cancer disease is a cancer or tumor of the pancreas, esophagus, lung, or liver.

26. The method as claimed in any of claims 1-17 or 20 or 21 or the use as claimed in any of claims 18-21 or the kit as claimed in any of claims 22-24, wherein said cancer disease is a cancer or tumor characterized by the increased expression of a tumor-associated antigen, said tumor-associated antigen being encoded by
(a) a nucleic acid comprising the nucleic acid sequence of SEQ ID NO: 117 or 119, or
(b) a nucleic acid which is at least 95% identical to the nucleic acid of (a),

and wherein said cancer disease is a cancer or tumor of the pancreas, esophagus, breast or prostate.