CLAIMS

1. A programmed cell death protein 1 (PD-1)/programmed death-ligand 1 (PD-L1) antibody for use in the treatment of a cancer in a patient, wherein the PD-1/PD-L1 antibody is to be administered to said patient, wherein the patient has been previously identified as having a transforming growth factor beta (TGFb)-specific T cell response.

2. The PD-1/PD-L1 antibody for the use of claim 1, wherein the TGFb-specific T cell response is against a peptide sequence having the amino acid sequence of SEQ ID NOs: 28, 55, 66, 29-31, 67, 5-9, 42-45, 12-15, 56-58, 23-26, 49-52, 63, 64, 65 or 2, preferably wherein the TGFb-specific T cell response is against a peptide sequence having the amino acid sequence of SEQ ID No: 28, 55 or 66, more preferably SEQ ID NO: 28.

3. The PD-1/PD-L1 antibody for the use of claim 1 or 2, wherein the patient displays a baseline TGFb-specific T cell response prior to the treatment that is at least the median baseline value of the TGFb-specific T cell response seen cancer patients with the same type of cancer, preferably wherein the patient displays a baseline TGFb-specific T cell response prior to the treatment that is at least the 75th percentile of the baseline value of the TGFb-specific T cell response in cancer patients with the same type of cancer.

4. The PD-1/PD-L1 antibody for the use of any one of the preceding claims, wherein the PD-1/PD-L1 antibody is a PD-1 antibody, preferably Nivolumab, further optionally wherein the patient is also being administered with a CTLA-4 antibody, preferably Ipilimumab.

5. A PD-1/PD-L1 antibody for the use of any one of the preceding claims wherein the patient is also being administered with radiotherapy.

6. The PD-1/PD-L1 antibody for the use of any one of the preceding claims wherein the cancer is pancreatic cancer and preferably is metastatic pancreatic cancer.

7. A method of stratifying a patient with cancer into one of at least two treatment groups, the method comprising:

i. performing an assay on a sample previously obtained from the patient to detect the presence or absence of a TGFb-specific T cell response;
ii. allocating the patient to a first treatment group if a TGFb-specific response is present or stratifying the patient into a second treatment group if a TGFb-specific response is absent;
wherein if the patient is allocated to the first treatment group they are to be administered with a PD-1/PD-L1 antibody.

8. A method of stratifying a patient with cancer into one of at least two treatment groups, the method comprising:
i. performing an assay on a sample previously obtained from the patient to detect the level of a TGFb-specific T cell response, if present;
ii. allocating the patient to a first treatment group if the TGFb-specific T cell response is at least a threshold value for a TGFb-specific T cell and stratifying the patient into a second treatment group if a TGFb-specific response is below the threshold value;
wherein if the patient is allocated to the first treatment group they are to be administered with a PD-1/PD-L1 antibody, optionally wherein the threshold value is the median baseline TGFb-specific T cell response for cancer patients with the same type of cancer and preferably wherein the threshold value is 75% of the baseline TGFb-specific T cell response in cancer patients with the same cancer type.

9. The method of any one of claims 7 or 8, wherein:
(a) the PD-1/PD-L1 antibody is Nivolumab, preferably wherein the patient is also being treated with radiotherapy and/or a CTLA4 antibody, preferably Ipilimumab, and optionally wherein the patient is being treated with both radiotherapy and the CTLA4 antibody; and/or
(b) the cancer is pancreatic cancer, preferably wherein the cancer is metastatic pancreatic cancer.

10. The method of any one of claims 7 to 9, wherein the TGFb-specific T cell response is against a peptide sequence having the amino acid sequence of SEQ ID NOs: 28, 55, 66, 29-31, 67, 5-9, 42-45, 12-15, 56-58, 23-26, 49-52, 63, 64, 65 or 2, preferably against a peptide sequence having the amino acid sequence of SEQ ID NO: 28 or 55, more preferably SEQ ID NO: 28.

11. A PD-1/PD-L1 antibody for use in the treatment of cancer, wherein:

(i) an immunogenic fragment of human TGFb which comprises or consists of a sequence of at least 9 consecutive amino acids of SEQ ID NO: 1 is to be administered to a patient; and

(ii) the PD-1/PD-L1 antibody is to be administered to the patient.

12. An immunogenic fragment of human TGFb for use in the treatment of a cancer in a patient, wherein

(i) the immunogenic fragment of human TGFb, which comprises or consists of a peptide sequence of at least 9 consecutive amino acids of SEQ ID NO: 1 is to be administered to the patient; and

(ii) a PD-1/PD-L1 antibody is to be administered to the patient.

13. The PD-1/PD-L1 antibody for the use of claim 11 or the immunogenic fragment of human TGFb for the use of claim 12, wherein the patient is first identified as one who either lacks a response a TGFb-specific T cell response or who has a TGFb-specific T cell response below a threshold value.

14. The PD-1/PD-L1 antibody for the use of claim 11 or 13 or the immunogenic fragment of human TGFb for the use of claim 12 or 13, wherein:

(i) the cancer is pancreatic cancer, preferably metastatic pancreatic cancer;

(ii) radiotherapy is further to be administered;

(iii) a CTLA4 antibody, preferably Ipilimumab is further to be administered; and/or

(iv) the PD-1/PD-L1 antibody is Nivolumab.

15. The immunogenic fragment of human TGFb for the use of any one of claims 12 to 14, wherein:

(i) the immunogenic fragment of human TGFb comprises the amino acid sequence of SEQ ID NOs: 28, 55, 66, 29-31, 67, 5-9, 42-45, 12-15, 56-58, 23-26, 49-52, 63, 64, 65 or 2, preferably wherein the immunogenic fragment of human TGFb comprises the amino acid sequence of SEQ ID NOs 28 or 55, more preferably SEQ ID NO: 28;

(ii) the immunogenic fragment of TGFb is to be administered to the patient prior to or simultaneously with other treatments;

(iii) the immunogenic fragment of TGFb is to be administered to the patient repeatedly; and/or

(iv) the immunogenic fragment of TGFb is to be administered to the patient repeatedly until the patient has a TGFb-specific T cell response or has a TGFb-specific T cell response at least the threshold value.

16. Use of a PD-1/ PD-L1 antibody in the manufacture of a medicament for the treatment of a cancer in a patient, wherein the PD-1/PD-L1 antibody is to be administered to said patient, wherein the patient has been previously identified as having a transforming growth factor beta (TGFb)-specific T cell response.

17. The use of claim 16, wherein the TGFb-specific T cell response is against a peptide sequence having the amino acid sequence of SEQ ID NOs: 28, 55, 66, 29-31, 67, 5-9, 42-45, 12-15, 56-58, 23-26, 49-52, 63, 64, 65 or 2, preferably wherein the TGFb-specific T cell response is against a peptide sequence having the amino acid sequence of SEQ ID No: 28, 55 or 66, more preferably SEQ ID NO: 28.

18. The use of claim 16 or 17, wherein the patient displays a baseline TGFb-specific T cell response prior to the treatment that is at least the median baseline value of the TGFb-specific T cell response seen cancer patients with the same type of cancer, preferably wherein the patient displays a baseline TGFb-specific T cell response prior to the treatment that is at least the 75th percentile of the baseline value of the TGFb-specific T cell response in cancer patients with the same type of cancer.

19. The use of any one of claims 16 to 18, wherein the PD-1/PD-L1 antibody is a PD-1 antibody, preferably Nivolumab, further optionally wherein the patient is also being administered with a CTLA-4 antibody, preferably Ipilimumab.

20. The use of any one of claims 16 to 19, wherein the patient is also being administered with radiotherapy.

21. The use of any one of claims 16 to 20, wherein the cancer is pancreatic cancer and preferably is metastatic pancreatic cancer.