CLAIMS:

1. An anti-CTLA4 antibody which inhibits the binding of CTLA4 to human B7.

2. An anti CTLA4 antibody of claim 1 which inhibits binding of CTLA4 to human B7.1 and/or human B7.2.

3. An anti-CTLA4 antibody of claim 1 or claim 2 comprising variable regions with at least one, two, three, four or five CDR sequences selected from the group consisting of ;

(i) CDRH1 comprising sequence DYNMD (SEQ ID NO:9)
(ii) CDRH2 comprising sequence NINPNSESTSYNQKFKG (SEQ ID NO: 10)
(iii) CDRH3 comprising sequence DGNRYDAWFAY (SEQ ID NO:11)
(iv) CDRL1 comprising sequence SASSSVTYMH (SEQ ID NO:12);
(v) CDRL2 comprising sequence STSNLAS (SEQ ID NO:13) ; and
(vi) CDRL3 comprising sequence QQRTSYPLT (SEQ ID NO:14).

4. An anti-CTLA4 antibody of claim 1 or claim 2 comprising variable regions with at least one, two, three, four or five CDR sequences selected from the group consisting of ;

(i) CDRH1 comprising sequence SYWIN (SEQ ID NO:15)
(ii) CDRH2 comprising sequence RIAPGSGTTYYNEVFKG (SEQ ID NO: 16)
(iii) CDRH3 comprising sequence GDYGSY (SEQ ID NO:17)
(iv) CDRL1 comprising sequence SASSSISYMH (SEQ ID NO:18);
(v) CDRL2 comprising sequence DTSKLAS (SEQ ID NO:19) ; and
(vi) CDRL3 comprising sequence HQRTSYPLT (SEQ ID NO:20).

5. An anti-CTLA4 antibody of claim 1 or claim 2 comprising variable region sequences selected from the group consisting of SEQ ID NOS: 31-35 for the heavy chain variable region in combination with sequences selected from the group consisting of SEQ ID NOS: 36-40 for the light chain variable region.

6. An anti-CTLA4 antibody of claim 1 or claim 2 comprising variable region sequences selected from the group consisting of SEQ ID NOS: 41-45 for the heavy chain variable region in combination with sequences selected from the group consisting of SEQ ID NOS: 46-50 for the light chain variable region.

7. An anti-CTLA4 antibody of claim 6 comprising SEQ ID NO: 45 for the heavy chain variable region in combination with SEQ ID NO: 49 for the light chain variable region.

8. An anti-CTLA4 antibody of any one of claims 1 to 7 which, when tested *in vitro* for induction of CD4+ helper T cell responses in at least 50 human blood samples with a distribution of HLA-DR allotypes from the human population, gives rise to <=4% of T cell responses.

9. The antibody of claims 1 to 8 wherein the variable region sequences are entirely derived from sequences in human antibody variable regions.

10. The antibody of claims 1 to 9 wherein binding to human CTLA4 can block binding to human B7.1 or B7.2 by at least 90%.

11. The antibody of claims 1 to 10 which binds to human CTLA4 with an equilibrium dissociation constant (Kd) of at least $10^{-8}$M.

12. The antibody of claims 1-11 which is comprised of variable regions together with a heavy chain constant region of either isotype IgG1, IgG2, IgG3 or IgG4, or a mutated IgG constant region, and a light chain constant region of isotype kappa.

13. The antibody of claim 12 where the human constant regions are IgG1 and kappa.

14. The antibody of claim 12 where the human constant regions are IgG4 and kappa.

15. The antibody of claims 1-11 where the antibody is a scFv or Fab.

16. A multispecific antibody comprising one or more antibodies of claims 1-15.

17. A polynucleotide encoding an antibody of any of claims 1-16.

18. A vector comprising the polynucleotide of claim 17.

19. A vector of claim 18 wherein the vector is an expression vector.

20. A host cell comprising a vector of claims 18 or 19.

21. The host cell of claim 20 wherein the host cell is prokaryotic.

22. The host cell of claim 20, wherein the host cell is eukaryotic.

23. The host cell of claim 22 wherein the host cell is mammalian.

24. A composition comprising an anti-CTLA4 antibody of any of claims 1-16.

25. A composition comprising a polynucleotide of any of claims 17-19.

26. A method for treating a disease including cancer, a cell proliferative disorder, a disease of the central nervous system (CNS), a disease of the blood system, an inflammatory disease, an infectious disease, an allergy, a T-cell related disease, graft versus host disease or host versus graft disease comprising administering an effective amount of an antibody of any one of claims 1 to 16 or a polynucleotide of any of claims 17 to 19 to a subject in need of such treatment.

27. A method for treating a cancer where the cancer is prostate, kidney, colon, lung or breast cancer comprising administering an effective amount of an antibody of any one of claims 1 to 16 or a polynucleotide of any of claims 17 to 19 to a subject in need of such treatment.

28. The method of claims 26 or 27 which further comprises co-administering an effective amount of a chemotherapeutic agent.

29. The method of any of claims 26 to 28 which further comprises co-administering a pharmaceutical carrier including a vaccine.

30. The use of an antibody of any one of claims 1 to 16 in a method for detecting *in vitro* or *in vivo* the presence of human CTLA4 antigen in a sample for diagnosis of a human CTLA4-related disease.

31. An antibody of any one of claims 1 to 16 or a polynucleotide of any one of claims 17 to 19 for use in treating a disease including cancer, a cell proliferative disorder, a disease of the central nervous system (CNS), a disease of the blood system, an inflammatory disease, an infectious disease, an allergy, a T-cell related disease, graft versus host disease or host versus graft disease.

**CLAIMS**

1. A anti-CTLA4 humanised antibody which inhibits the binding of CTLA4 to human B7, in which said antibody comprises variable regions having CDR sequences of:

(i) CDRH1 comprising sequence DYNMD (SEQ ID NO:9)

(ii) CDRH2 comprising sequence NINPNSESTSYNQKFKG (SEQ ID NO: 10)

(iii) CDRH3 comprising sequence DGNRYDAWFAY (SEQ ID NO:11)

(iv) CDRL1 comprising sequence SASSSVTYMH (SEQ ID NO:12)

(v) CDRL2 comprising sequence STSILAS (SEQ ID NO:13), and

(vi) CDRL3 comprising sequence QQRTSYPLT (SEQ ID NO:14);

or

(i) CDRH1 comprising sequence SYWIN (SEQ ID NO:15)

(ii) CDRH2 comprising sequence RIAPGSGTTYYNEVFKG (SEQ ID NO: 16)

(iii) CDRH3 comprising sequence GDYGSY (SEQ ID NO:17)

(iv) CDRL1 comprising sequence SASSSISYMH (SEQ ID NO:18);

(v) CDRL2 comprising sequence DTSKLAS (SEQ ID NO:19) ; and

(vi) CDRL3 comprising sequence HQRTSYPLT (SEQ ID NO:20).

2. An anti-CTLA4 antibody according to Claim 1 comprising variable region sequences selected from the group consisting of SEQ ID NOS: 31-35 for the heavy chain variable region in combination with sequences selected from the group consisting of SEQ ID NOS: 36-40 for the light chain variable region.

3. An anti-CTLA4 antibody according to Claim 1 comprising variable region sequences selected from the group consisting of SEQ ID NOS: 41-45 for the heavy chain variable region in combination with sequences selected from the group consisting of SEQ ID NOS: 46-50 for the light chain variable region.

4. An anti-CTLA4 antibody according to Claim 3 comprising SEQ ID NO: 45 for the heavy chain variable region in combination with SEQ ID NO: 49 for the light chain variable region.

5. An anti-CTLA4 antibody according to any of Claims 1 to 4 which, when tested *in vitro* for induction of CD4+ helper T cell responses in at least 50 human blood samples with a distribution of HLA-DR allotypes from the human population, gives rise to <=4% of T cell responses.

6. An antibody according to any preceding claim, in which the variable region sequences are entirely derived from sequences in human antibody variable regions.

7. An antibody according to any preceding claim, which is comprised of variable regions together with a heavy chain constant region of either isotype IgG1, IgG2, IgG3 or IgG4, or a mutated IgG constant region, and a light chain constant region of isotype kappa, for example where the human constant regions are IgG1 and kappa or IgG4 and kappa.

8. An antibody according to any of Claims 1 to 6, in which the antibody is a scFv or Fab.

9. A multispecific antibody comprising one or more antibodies each according to any preceding claim.

10. A polynucleotide encoding an antibody according to any preceding claim.

11. A vector comprising the polynucleotide according to Claim 10.

12. A host cell comprising a vector according to Claim 11.

13. A composition comprising an anti-CTLA4 antibody according to any of Claims 1 to 9 or a polynucleotide according to Claim 10.

14. An antibody according to any of Claims 1 to 9 for use in a method of *in vivo* diagnosis of a human CTLA4-related disease.

15. The use of an antibody according to any of Claims 1 to 9 in a method for detecting *in vitro* the presence of human CTLA4 antigen in a sample for diagnosis of a human CTLA4-related disease.

16. An antibody according to any of Claims 1 to 9 or a polynucleotide according to Claim 10 for use in treating a disease including cancer, for example where the cancer is prostate, kidney, colon, lung or breast cancer; a cell proliferative disorder, a disease of the central nervous system (CNS), a disease of the blood system, an inflammatory disease, an infectious

disease, an allergy, a T-cell related disease, graft versus host disease or host versus graft disease.