

CLAIMS:

1. An isolated antibody that specifically binds to human CTLA-4 protein, comprising: a heavy chain variable region comprising the CDRH1, CDRH2 and CDRH3 amino acid sequences of SEQ ID NOs: 10, 12, and 14, respectively; and a light chain variable region comprising the CDRL1, CDRL2 and CDRL3 amino acid sequences of SEQ ID NOs: 15, 16, and 17, respectively.
2. The isolated antibody of claim 1, wherein the heavy chain variable region comprises the amino acid sequence of SEQ ID NO: 8.
3. The isolated antibody of claim 1, wherein the light chain variable region comprises the amino acid sequence of SEQ ID NO: 9.
4. The isolated antibody of claim 1, wherein the antibody comprises a human IgG₁ heavy chain constant region comprising S239D/A330L/I332E mutations, numbered according to the EU numbering system.
5. The isolated antibody of claim 1, wherein the antibody comprises a heavy chain constant region comprising the amino acid sequence of SEQ ID NO: 30.
6. The isolated antibody of claim 1, wherein the antibody comprises a heavy chain comprising the amino acid sequence of SEQ ID NO: 25.
7. The isolated antibody of claim 1, wherein the antibody comprises a light chain constant region comprising the amino acid sequence of SEQ ID NO: 32.
8. The isolated antibody of claim 1, wherein the antibody comprises a light chain comprising the amino acid sequence of SEQ ID NO: 27.
9. An isolated antibody that specifically binds to human CTLA-4 protein, comprising: a

heavy chain variable region comprising the amino acid sequence of SEQ ID NO: 8; and a light chain variable region comprising the amino acid sequence of SEQ ID NO: 9, wherein the antibody comprises a heavy chain constant region comprising the amino acid sequence of SEQ ID NO: 30.

10. An isolated antibody that specifically binds to human CTLA-4 protein, comprising: a heavy chain variable region comprising the amino acid sequence of SEQ ID NO: 8; and a light chain variable region comprising the amino acid sequence of SEQ ID NO: 9, wherein the antibody comprises a heavy chain comprising the amino acid sequence of SEQ ID NO: 25.

11. An isolated antibody that specifically binds to human CTLA-4 protein, comprising: a heavy chain variable region comprising the amino acid sequence of SEQ ID NO: 8; and a light chain variable region comprising the amino acid sequence of SEQ ID NO: 9, wherein the antibody comprises a light chain constant region comprising the amino acid sequence of SEQ ID NO: 32.

12. An isolated antibody that specifically binds to human CTLA-4 protein, comprising: a heavy chain variable region comprising the amino acid sequence of SEQ ID NO: 8; and a light chain variable region comprising the amino acid sequence of SEQ ID NO: 9, wherein the antibody comprises a light chain comprising the amino acid sequence of SEQ ID NO: 27.

13. An isolated antibody that specifically binds to human CTLA-4 protein, comprising: a heavy chain comprising the amino acid sequence of SEQ ID NO: 25; and a light chain comprising the amino acid sequence of SEQ ID NO: 27, wherein the amino acid sequence of the heavy chain consists of the amino acid sequence of SEQ ID NO: 25.

14. An isolated antibody that specifically binds to human CTLA-4 protein, comprising: a heavy chain comprising the amino acid sequence of SEQ ID NO: 25; and a light chain comprising the amino acid sequence of SEQ ID NO: 27, wherein the amino acid sequence of the light chain consists of the amino acid sequence of SEQ ID NO: 27.

15. An isolated antibody that specifically binds to human CTLA-4 protein, comprising: a heavy chain comprising the amino acid sequence of SEQ ID NO: 25; and a light chain comprising the amino acid sequence of SEQ ID NO: 27, wherein the amino acid sequence of the heavy chain consists of the amino acid sequence of SEQ ID NO: 25, and the amino acid sequence of the light chain consists of the amino acid sequence of SEQ ID NO: 27.

16. A pharmaceutical composition comprising the antibody of claim 1 and a pharmaceutically acceptable carrier or excipient.

17. A pharmaceutical composition comprising the antibody of claim 4 and a pharmaceutically acceptable carrier or excipient.

18. A pharmaceutical composition comprising the antibody of claim 13 and a pharmaceutically acceptable carrier or excipient.

19. A pharmaceutical composition comprising the antibody of claim 14 and a pharmaceutically acceptable carrier or excipient.

20. A pharmaceutical composition comprising the antibody of claim 15 and a pharmaceutically acceptable carrier or excipient.