CLAIMS

~~We claim:~~

1. An isolated antibody which binds to OX40 comprising: (a) a heavy chain variable region CDR1 comprising the amino acid sequence of SEQ ID NO: 1; (b) a heavy chain variable region CDR2 comprising the amino acid sequence of SEQ ID NO: 2; (c) a heavy chain variable region CDR3 comprising the amino acid sequence of SEQ ID NO. 3; (d) a light chain variable region CDR1 comprising the amino acid sequence of SEQ ID NO. 7; (e) a light chain variable region CDR2 comprising the amino acid sequence of SEQ ID NO. 8; and (f) a light chain variable region CDR3 comprising the amino acid sequence of SEQ ID NO. 9.

2. An isolated antibody which binds to OX40 comprising: (a) a heavy chain variable region CDR1 comprising the amino acid sequence of SEQ ID NO: 13; (b) a heavy chain variable region CDR2 comprising the amino acid sequence of SEQ ID NO: 14; (c) a heavy chain variable region CDR3 comprising the amino acid sequence of SEQ ID NO. 15; (d) a light chain variable region CDR1 comprising the amino acid sequence of SEQ ID NO. 19; (e) a light chain variable region CDR2 comprising the amino acid sequence of SEQ ID NO. 20; and (f) a light chain variable region CDR3 comprising the amino acid sequence of SEQ ID NO. 21.

3. An isolated antibody according to claim 1, wherein the isolated antibody comprises a light chain variable region having a sequence at least 90% identical to the amino acid sequence of SEQ ID NO:10 and a heavy chain variable region having a sequence at least 90% identical to the amino acid sequence of SEQ ID NO:4.

4. An isolated antibody according to claim 2, wherein the isolated antibody comprises a light chain variable region having a sequence at least 90% identical to the amino acid sequence of SEQ ID NO:22 and a heavy chain variable region having a sequence at least 90% identical to the amino acid sequence of SEQ ID NO:16.

5. An isolated antibody according to any of the preceding claims, wherein the isolated antibody is a monoclonal antibody.

6. An isolated antibody according to any of the preceding claims, wherein the isolated antibody is a humanized antibody.

7. An isolated antibody in accordance with claim 6, which comprises a light chain variable region having a sequence at least 90% identical to the amino acid sequence of SEQ ID NO:11 and a heavy chain variable region having a sequence at least 90% identical to the amino acid sequence of SEQ ID NO:5.

8. An isolated antibody in accordance with claim 6, which comprises a light chain variable region having a sequence at least 90% identical to the amino acid sequence of SEQ ID NO:23 and a heavy chain variable region having a sequence at least 90% identical to the amino acid sequence of SEQ ID NO:17.

9. An antigen-binding portion of an antibody of any of the preceding claims, wherein the antigen-binding portion retains the ability to specifically bind to and agonize OX40 receptor.

~~3. An isolated antibody that binds OX40 comprising the amino acid sequence of SEQ ID NO. 7 or 19, or an antibody comprising an amino acid sequence with 90 percent homology to the amino acid sequence of SEQ ID NO: 7 or 19.~~

~~4. An isolated antibody that binds OX40 comprising the amino acid sequence of SEQ ID NO. 8 or 20, or an antibody comprising an amino acid sequence with 90 percent homology to the amino acid sequence of SEQ ID NO: 8 or 20.~~

~~5. An isolated antibody that binds OX40 comprising the amino acid sequence of SEQ ID NO. 9 or 21, or an antibody comprising an amino acid sequence with 90 percent homology to the amino acid sequence of SEQ ID NO: 9 or 21.~~

~~6. An isolated antibody that binds OX40 comprising the amino acid sequence of SEQ ID NO. 1 or 13, or an antibody comprising an amino acid sequence with 90 percent homology to the amino acid sequence of SEQ ID NO: 1 or 13.~~

~~7. An isolated antibody that binds OX40 comprising the amino acid sequence of SEQ ID NO. 2 or 14, or an antibody comprising an amino acid sequence with 90 percent homology to the amino acid sequence of SEQ ID NO: 2 or 14.~~

~~8. An isolated antibody that binds OX40 comprising the amino acid sequence of SEQ ID NO. 3 or 15, or an antibody comprising an amino acid sequence with 90 percent homology to the amino acid sequence of SEQ ID NO: 3 or 15.~~

~~9. An isolated antibody that binds to an epitope on OX40 recognized by an antibody having a heavy chain variable region comprising the amino acid sequences of SEQ ID NO. 5 or 17 and a light chain variable region comprising the amino acid sequences of SEQ ID No. 11 or 23, or an antibody having amino acid sequences with at least 90 percent homology thereto.~~

~~10. An isolated antibody which binds OX40 comprising, a light chain variable region having CDRs comprising the amino acid sequences of SEQ ID NO: 7 or 19, SEQ ID NO: 8 or 20, SEQ ID NO: 9 or 21, or an antibody having amino acid sequences with at least 90 percent homology thereto.~~

~~11. An isolated antibody which binds OX40 comprising, a heavy chain variable region having CDRs comprising the amino acid sequences of SEQ ID NO: 1 or 13, SEQ ID NO: 2 or 14, SEQ ID NO: 3 or 15, or an antibody having amino acid sequences with at least 90 percent homology thereto.~~

~~12~~10. Isolated nucleic acid encoding the antibody of any of claims 1 to ~~11~~9.

~~13~~11. A host cell comprising nucleic acid encoding the antibody of any of the claims 1 to ~~11~~9.

~~14~~12. A method of producing an antibody comprising the step of culturing the host cell of claim ~~13~~11.

~~15~~13. The method of claim ~~14~~12, further comprising recovering the antibody from the host cell.

~~16. An antibody of any of the claims 1 to 11 for use as a medicament.~~

~~17. An antibody of any of claims 1 to 11 for use in treating an autoimmune disease.~~

~~18. An antibody of any of claims 1 to 11 for use in treating cancer.~~

~~19~~14. Use of ~~an~~the isolated antibody of any of the claims 1 to ~~11~~9 in the manufacture of a medicament~~, wherein the medicament is~~ for the treatment of ~~cancer or an autoimmune~~ disease or disorder.

15. The use of claim 14, wherein the disease or disorder is cancer.