

Claims:

1. An isolated antibody, or an antigen-binding fragment thereof, that specifically binds to human GITR comprising a heavy chain CDR1 having the amino acid sequence of SEQ ID NO: 27, a heavy chain CDR2 having the amino acid sequence of SEQ ID NO: 5, and a heavy chain CDR3 having the amino acid sequence of SEQ ID NO: 26, a light chain CDR1 having the amino acid sequence of SEQ ID NO: 28, a light chain CDR2 having the amino acid sequence of SEQ ID NO: 32, and a light chain CDR3 having the amino acid sequence of SEQ ID NO: 35, and wherein the heavy chain region comprises SEQ ID NO: 64 paired with a light chain region comprising SEQ ID NO: 55.
2. The antibody or antigen-binding fragment of claim 1, wherein the antibody specifically binds to human GITR by interacting with GITR (SEQ ID NO: 62) amino acid residues:
 - a. 40-45; and
 - b. 75-79.
3. The antibody or antigen-binding fragment of claim 1 or claim 2, wherein:
 - a) the antibody or antigen-binding fragment thereof binds to a polypeptide having the amino acid sequence of SEQ ID NO: 59;
 - b) the antibody or antigen-binding fragment thereof specifically binds human GITR with a binding affinity of at least 30 nM as measured by surface plasmon resonance using experimental design described in Example 9;
 - c) the antibody or antigen-binding fragment induces an increase in luciferase expression in NF- κ B luciferase gene assay;
 - d) the antibody or antigen-binding fragment induces ADCC *in vitro* with an EC₅₀ of less than about 67 ng/mL;
 - e) the antibody or antigen-binding fragment is a human antibody or antigen-binding fragment;

- f) the antigen binding fragment is a Fab fragment, a Fab2 fragment, or a single chain antibody;
 - g) the antibody or antigen-binding fragment is recombinant;
 - h) the antibody or antigen-binding fragment thereof are of IgG1, IgG2, IgG3, or IgG4 isotype; and/or
 - i) the antibody or antigen binding fragment thereof is of IgG1 isotype.
- 4. A polynucleotide encoding the antibody or antigen binding fragment of any preceding claim.
- 5. A vector comprising the polynucleotide of claim 4.
- 6. A host cell comprising the vector of claim 5.
- 7. A process for the production of an antibody or antigen-binding fragment, comprising:
 - culturing the host cell as defined in claim 6 under the conditions allowing the expression of the antibody or antigen-binding fragment, and recovering the antibody or antigen-binding molecule from the culture.
- 8. Use of the antibody, or antigen binding fragment thereof, of any one of claims 1 – 3 in the manufacture of a medicament for alleviating a symptom of a cancer or other neoplastic condition, wherein the medicament is to be administered to a subject in need thereof in an amount sufficient to alleviate the symptom of the cancer or other neoplastic condition in the subject.
- 9. The use of claim 8, wherein the subject is a human.
- 10. The use of claim 8 or claim 9, wherein, in addition to the medicament, one or more of the following is to be administered:
 - a. chemotherapy

- b. radiation therapy; or
- c. one or more additional therapeutic agents.

11. The use of claim 10, wherein the additional therapeutic agent is an immunostimulatory agent

such as, wherein the immunostimulatory agent is selected from the group consisting of PD-1 antibody, CTLA-4 antibody, CD122 antibody, CD40 antibody, OX40 antibody, and a CD8 Ag-specific OVA peptide vaccine.

12. A pharmaceutical composition comprising the antibody, or antigen binding fragment thereof, of any one of claims 1 - 3 and a pharmaceutically acceptable carrier.

13. A kit comprising the antibody, or antigen binding fragment thereof, of any one of claims 1 - 3 and packaging for the same.

14. The antibody, or antigen binding fragment thereof, of any one of claims 1 – 3, for use in a method of alleviating a symptom of a cancer or other neoplastic condition, wherein the antibody, or antigen binding fragment thereof, of any one of claims 1 – 3 is to be administered to a subject in need thereof in an amount sufficient to alleviate the symptom of the cancer or other neoplastic condition in the subject.