WHAT IS CLAIMED IS:

1. Use of an agonistic anti-CD137 antibody for the preparation of a medicament for enhancing the anti-tumor effect of an antibody directed against a tumor antigen that induces or up-regulates expression of CD137 on NK cells, wherein said medicament is to be administered a period of time after said antibody directed against a tumor antigen that induces or up-regulates expression of CD137 on NK cells in a cancer patient is administered.

2. The use according to claim 1, wherein the period of time is at least 12 hours and not more than about 5 days.

3. The use according to Claim 1, wherein the antibody directed against a tumor antigen that induces or up-regulates expression of CD137 on NK cells is directed against a specific cancer epitope, or combination of epitopes, that allows the targeting and/or depletion of cancer cell populations expressing said antigen.

4. The use according to claim 3 wherein the antibody directed against a tumor antigen that induces or up-regulates expression of CD137 on NK cells is specific for CD20, CD19, CD22, CD52, Her2, or epidermal growth factor receptor (EGFR).

5. The use according to claim 1 wherein the medicament is to be administered after the induction or up-regulation has occurred.

6. The use according to claim 5 comprising determining that the induction or up-regulation has occurred.

7. The use according to Claim 6, wherein the patient sample is patient blood sample or cellular fraction thereof.

8. The use according to claim 1, wherein the antibody directed against a tumor antigen that induces or up-regulates expression of CD137 on NK cells and/or agonistic anti-CD137 antibody~~ies~~ is/are monoclonal.

9. The use according to claim 8, wherein one or both of the antibodies is/are humanized, chimeric, or xenogeneic human antibodies.

10. The use according to claim 4, wherein the antibody directed against a tumor antigen that induces or up-regulates expression of CD137 on NK cells is cetuximab or trastuzumab.

11. The use according to claim 9, wherein the cancer is a breast carcinoma, a colon cancer, a head and neck cancer, a leukemia, a lung cancer, a lymphoma, a rectal cancer or solid tumor.

12. The use according to claim 4, wherein the antibody directed against a tumor antigen that induces or up-regulates expression of CD137 on NK cells is Rituximab , Tositumomab, Ibritumomab, or Alemtuzumab .

13. The use according to claim 12, wherein the cancer is or comprises an acute lymphoblastic leukemia (ALL), a chronic lymphocytic leukemia (CLL), a colorectal cancer, a hairy cell leukemia, a marginal zone lymphoma (MZL), a myelogenous leukemia, a non-Hodgkin's lymphoma or a squamous cell carcinoma.

14. A kit for use in enhancing the anti-tumor effect of an antibody directed against a tumor antigen that induces or up-regulates expression of CD137 on NK cells comprising i) said antibody directed against a tumor antigen that induces or up-regulates expression of CD137 on NK cells and ii) an agonistic anti-CD137 antibody, each of which is in the form of lyophilized formulations or aqueous solutions in an article of manufacture.

15. The kit of claim 14 wherein each of the two active agents is formulated in a compatible pharmaceutical carrier, in an appropriate container that is labeled for the treatment of a cancer, in a pack or dispenser device containing one or more unit dosage forms containing the two active agents.

16. The kit of claim 14, comprising a unit suitable for measuring expression of CD137on NK cells.

17. The kit of claim 14, further comprising buffers, diluents, filters, needles, syringes, and package inserts with instructions for use.

18. A kit for use in treating cancer comprising a pack or dispenser device containing one or more unit dosage forms of i) an antibody that is directed against a tumor antigen that induces or up-regulates expression of CD137 on NK cells; and ii) an agonistic anti-CD137 antibody, each of which is in the form of lyophilized formulations or aqueous solutions in an article of manufacture.

19. The kit of claim 18, comprising a unit suitable for measuring expression of CD137on NK cells.

20. The kit of claim 18, further comprising buffers, diluents, filters, needles, syringes, and package inserts with instructions for use.

21. Use of i) an antibody that is directed against a tumor antigen that induces or up-regulates expression of CD137 on NK cells; and ii) an agonistic anti-CD137 antibody, for the manufacture of a kit for the treatment of cancer, each of which is in the form of lyophilized formulations or aqueous solutions in an article of manufacture.

22. The use of claim 21 wherein each of the two active agents is formulated in a compatible pharmaceutical carrier, in an appropriate container that is labeled for the treatment of a cancer, in a pack or dispenser device containing one or more unit dosage forms containing the two active agents.

23. The use of claim 21, comprising a unit suitable for measuring expression of CD137on NK cells.

24. The use of claim 21, further comprising buffers, diluents, filters, needles, syringes, and package inserts with instructions for use.