CLAIMS

1. A combination drug for use in treatment of a cancer in a subject, comprising:

(a) a T cell expressing interleukin-7, CCL19, and a cell surface molecule that specifically recognizes a cancer antigen; and

(b) an immunosuppression inhibitor that is at least one of an anti-PD-1 antibody or an anti-PD-L1 antibody.

2. The combination drug for use according to claim 1, wherein the T cell and the immunosuppression inhibitor are separately administered at different times.

3. The combination drug for use according to claim 1 or claim 2, wherein a nucleic acid encoding interleukin-7 and a nucleic acid encoding CCL19 are integrated into a genome of the T cell, or the nucleic acid encoding interleukin-7 and the nucleic acid encoding CCL19 are integrated together or separately in one or more vectors present in the T cell.

4. The combination drug for use according to any one of claims 1 to 3, wherein the T cell is derived from the subject itself.

5. The combination drug for use according to any one of claims 1 to 4, wherein the immunosuppression inhibitor is one or more kinds of antibodies selected from the group consisting of Nivolumab, Pembrolizumab, Toripalimab, Cemiplimab-rwlc, Sintilima, Atezolizumab, Durvalumab, and Avelumab.

6. The combination drug for use according to any one of claims 1 to 5, wherein the anti-PD-1 antibody and the anti-PD-L1 antibody are complete natural antibodies, bispecific antibodies, chimeric antibodies, Fab, Fab', or single chain antibodies (scFv).

7. The combination drug for use according to any one of claims 1 to 6, wherein the cell surface molecule that specifically recognizes a cancer antigen is a chimeric antigen receptor (CAR) or a T-cell receptor (TCR).

8. The combination drug for use according to any one of claims 1 to 7, wherein the anti-PD-1 antibody and the anti-PD-L1 antibody are each an IgG monoclonal antibody or an

antibody fragment.

9. The combination drug for use according to any one of claims 1 to 8, wherein the cancer is a solid cancer.

10. Use of a T cell expressing interleukin-7, CCL19, and a cell surface molecule that specifically recognizes a cancer antigen in the manufacture of a drug for combined use with an immunosuppression inhibitor that is at least one of an anti-PD-1 antibody or an anti-PD-L1 antibody in treatment of a cancer in a subject.

11. Use of an immunosuppression inhibitor that is at least one of an anti-PD-1 antibody or an anti-PD-L1 antibody in the manufacture of a drug for combined use with a T cell expressing interleukin-7, CCL19, and a cell surface molecule that specifically recognizes a cancer antigen, in treatment of a cancer in a subject.

12. The use according to claim 10 or claim 11, wherein the immunosuppression inhibitor and the T cell are administered separately at different times.

13. The use according to claim 10, wherein the drug is contained in a container carrying an indication of instruction for combined use with an immunosuppression inhibitor that is at least one of an anti-PD-1 antibody or an anti-PD-L1 antibody.

14. A pharmaceutical composition for use in treatment of a cancer in a subject, the pharmaceutical composition comprising:

(a) a T cell expressing interleukin-7, CCL19, and a cell surface molecule that specifically recognizes a cancer antigen; and

(b) an immunosuppression inhibitor that is at least one of an anti-PD-1 antibody or an anti-PD-L1 antibody.

15. The pharmaceutical composition for use according to claim 14, wherein the cell surface molecule that specifically recognizes a cancer antigen is a chimeric antigen receptor (CAR) or a T-cell receptor (TCR).

16. A T cell, expressing interleukin-7, CCL19, an immunosuppression inhibiting polypeptide, and a cell surface molecule that specifically recognizes a cancer antigen, wherein

the immunosuppression inhibiting polypeptide is at least one of an anti-PD-1 antibody or an anti-PD-L1 antibody.

17. The T cell according to claim 16, wherein a nucleic acid encoding interleukin-7 and a nucleic acid encoding CCL19 are integrated into a genome of the T cell, or the nucleic acid encoding interleukin-7 and the nucleic acid encoding CCL19 are integrated together or separately in one or more vectors present in the T cell.

18. The T cell according to claim 17, wherein a nucleic acid encoding the immunosuppression inhibiting polypeptide is integrated into a genome of the T cell, or integrated into a vector that is the same as one of the one or more vectors that are present in the T cell or different from any of the one or more vectors that are present in the T cell.

19. The T cell according to any one of claims 16 to 18, wherein the cell surface molecule that specifically recognizes a cancer antigen is a chimeric antigen receptor (CAR) or a T-cell receptor (TCR).

20. The T cell according to any one of claims 16 to 19, wherein the anti-PD-1 antibody and the anti-PD-L1 antibody are each an IgG monoclonal antibody or an antibody fragment.

21. A drug comprising the T cell according to any one of claims 16 to 20.

22. The drug according to claim 21, for use in treatment of a cancer in a subject.

23. The drug for use according to claim 22, wherein the cancer is a solid cancer.

24. The drug for use according to claim 22 or claim 23, wherein the T cell is derived from the subject itself.

25. One or more kinds of nucleic acid delivery vehicles for introduction into a T cell, the one or more kinds of nucleic acid delivery vehicles cooperatively comprising a nucleic acid encoding interleukin-7, a nucleic acid encoding CCL19, a nucleic acid encoding at least one of an anti-PD-1 antibody or an anti-PD-L1 antibody, and a nucleic acid encoding a cell surface molecule that specifically recognizes a cancer antigen.

26. One or more kinds of nucleic acid delivery vehicles for introduction into a T cell, the one or more kinds of nucleic acid delivery vehicles cooperatively comprising a nucleic acid encoding interleukin-7, a nucleic acid encoding CCL19, and a nucleic acid encoding at least one of an anti-PD-1 antibody or an anti-PD-L1 antibody,

wherein the T cell expresses a cell surface molecule that specifically recognizes a cancer antigen.