

CLAIMS

1. A method for producing a CD3-positive T cell, comprising step (I) of culturing a CD3-positive T cell in the presence of a CD3/TCR complex agonist, fibronectin or RetroNectin, and a CD30 agonist, and
5 step (II) of culturing the CD3-positive T cell cultured in step (I) in the absence of a CD3/TCR complex agonist and fibronectin or RetroNectin, and in the presence of a CD30 agonist.
- 10 2. The method according to claim 1, wherein the CD3-positive T cell is derived from a pluripotent stem cell.
3. The method according to claim 2, wherein the pluripotent stem cell is an iPS cell.
- 15 4. The method according to any one of claims 1 to 3, wherein the CD3-positive T cell is a chimeric antigen receptor-expressing CD3-positive T cell.
- 20 5. The method according to any one of claims 1 to 4, wherein the CD3-positive T cell is a CD3-positive CD8-positive T cell.
6. The method according to claim 5, wherein the CD3-positive CD8-positive T cell is a CD3-positive CD8-positive CD4-negative T cell.
- 25 7. The method according to any one of claims 1 to 6, wherein the CD3-positive T cell is a γ TCR-positive and/or δ TCR-positive T cell.
8. The method according to any one of claims 1 to 7, wherein the
30 CD3/TCR complex agonist is a CD3 agonist and/or a TCR agonist.
9. The method according to claim 8, wherein the CD3 agonist is an anti-CD3 agonist antibody or a binding fragment thereof.
- 35 10. The method according to claim 9, wherein the anti-CD3 agonist antibody or a binding fragment thereof is an anti-CD3 agonist antibody or a binding fragment thereof produced from UCHT1 clone.
11. The method according to claim 8, wherein the TCR agonist is at
40 least one selected from the group consisting of an anti-TCR antibody or a binding fragment thereof, an HLA/peptide complex or a multimer thereof, and an HLA/superantigen complex or a multimer thereof.

12. The method according to claim 9 or 10, wherein the anti-CD3 agonist antibody or a binding fragment thereof is immobilized on a culture container.

5 13. The method according to claim 12, wherein the anti-CD3 agonist antibody or a binding fragment thereof is immobilized by contacting 1 ng/ml - 50000 ng/ml of the anti-CD3 agonist antibody or a binding fragment thereof with the culture container.

10 14. The method according to any one of claims 1 to 13, wherein the RetroNectin is immobilized on the culture container.

15 15. The method according to claim 14, wherein the RetroNectin is immobilized by contacting 1 - 150 µg/mL of the RetroNectin with the culture container.

16. The method according to any one of claims 1 to 15, wherein the CD30 agonist is at least one selected from the group consisting of an anti-CD30 agonist antibody or a binding fragment thereof and a CD30
20 ligand or a binding fragment thereof.

17. The method according to claim 16, wherein the anti-CD30 agonist antibody or a binding fragment thereof is contained in a medium.

25 18. The method according to claim 17, wherein a concentration of the anti-CD30 agonist antibody or a binding fragment thereof in the medium of 1 ng/ml - 1000 ng/ml.

30 19. The method according to any one of claims 1 to 18, wherein the medium comprises at least one selected from IL-7, IL-15, IL-18 and IL-21.

20. The method according to claim 19, wherein the medium comprises IL-7, IL-15, IL-18 and IL-21.

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21. The method according to claim 19 or 20, wherein the medium further comprises TL1A and/or IL-12.

22. The method according to any one of claims 1 to 21, wherein the
40 CD3-positive T cell produced is further CD197-positive.

23. A method for expansion culture of a CD3-positive T cell,
comprising step (I) of culturing the CD3-positive T cell in the
presence of a CD3/TCR complex agonist, fibronectin or RetroNectin,
and a CD30 agonist, and step (II) of culturing the CD3-positive T
5 cell cultured in step (I) in the absence of a CD3/TCR complex agonist
and fibronectin or RetroNectin, and in the presence of a CD30 agonist.