【CLAIMS】

1. A method for evaluating effectiveness of an osteoarthritis cell therapeutic agent, comprising:

(1) preparing (a) a first population of transformed mammalian cells with a transforming growth factor beta (TGF-β) transgene, and (b) a second population of untransformed mammalian cells with the same gene, respectively;

(2) filling the first and second populations of step (1) into individual vials, respectively;

(3) inactivating replication of the first population of step (2);

(4) culturing the first population of step (3);

(5) measuring a concentration of TGF-β from the first population of step (4);

(6) evaluating effectiveness of a cell composition comprising the first population and the second population as a therapeutic agent based on the TGF-β concentration measured of step (5); and

determining an expression of thrombospondin 1 (TSP-1) in the second population,

wherein, if an expression level of TGF-β in the first population is 1.7 ng/10^5 cells/24 hrs or more of step (6), it is determined that the cell composition is effective as a therapeutic agent, and

wherein the second population of untransformed mammalian cells is a chondrocyte or a chondroprogenitor cell.

2. The method according to claim 1, wherein the inactivation of step (3) is performed by irradiation.

3. The method according to claim 2, wherein the irradiation includes gamma ray, x-ray or electron ray.

4. The method according to claim 1, wherein the vial of step (2) contains a cryoprotective solution.

5. The method according to claim 4, wherein the cryoprotective solution of step (2) includes dimethyl sulfoxide(DMSO).

6. The method according to claim 5, wherein the cryoprotective solution of step (2) contains 5 to 15% by volume of DMSO.

7. The method according to claim 1, wherein the inactivation of step (3) is performed before or after freezing the vial.

8. The method according to claim 7, wherein the freezing is performed at -20 to -196°C.

9. The method according to claim 7, wherein the

cultivation of step (4) is performed after thawing the frozen vial.

10. The method according to claim 9, wherein the thawing is to leave the frozen vial at 15 to 40°C for 1 to 90 minutes.

11. The method according to claim 1, wherein the cultivation of step (4) is performed for 6 to 96 hours.

12. The method according to claim 1, wherein, if the expression level of TSP-1 is 31 ng/10^5 cells/24 hrs or more, it is determined that the cell composition is effective as a therapeutic agent.

13. The method according to claim 1, wherein the first population of transformed mammalian cells is a chondrocyte or a chondroprogenitor cell.

14. The method according to claim 1, wherein the transformed mammalian cells in the first population are inactivated in step (3) by irradiation.

15. A method for manufacturing an osteoarthritis therapeutic agent, comprising:

(1) preparing (a) a first population of transformed

mammalian cells with a transforming growth factor beta (TGF-β) transgene, and (b) a second population of untransformed mammalian cells with the same gene, respectively;

(2) filling the first and second populations of step (1) in a cryoprotective solution into individual vials, respectively;

(3) inactivating replication of the first population of step (2) before or after freezing the vial;

(4) thawing the first population of step (3);

(5) culturing the first population of step (4);

(6) measuring a concentration of TGF-β from the first population of step (4);

(7) selecting the first population having TGF-β expression level of 1.7 ng/10^5 cells/24 hrs or more, as measured of step (6);

(8) selecting the second population having thrombospondin 1 (TSP-1) expression.

16. The method according to claim 15, wherein the selection of step (8) comprises measuring an expression level of thrombospondin 1 (TSP-1) in the second population, and selecting the second population having TSP-1 expression level of 31 ng/10^5 cells/24 hrs or more.

17. The method according to claim 15, wherein the transformed mammalian cells in the first population are

inactivated in step (3) by irradiation.