Claims

1. A culture medium for a proliferation of a pluripotent stem cell while maintaining an undifferentiated state in serum-free and feeder-free, wherein the medium comprised an albumin, at least one selected from the group consisting of ethanolamine, ethanolamine analogs and pharmaceutically acceptable salts thereof, and substantially free of β-mercaptoethanol and wherein the concentration of said at least one selected from the group consisting of ethanolamine, ethanolamine analogs and pharmaceutically acceptable salts thereof in the medium is 11 μM - 200 μM.

2. The culture medium according to claim 1, wherein the amount of fatty acid carried by the albumin in the medium is not more than 9 mg/g.

3. The culture medium according to claim 1, wherein the amount of fatty acid carried by the albumin in the medium is not more than 2.2 mg/g.

4. The culture medium according to claim 1, which is further added with sulfated saccharide and/or a pharmaceutically acceptable salt thereof.

5. A culture method for a proliferation of a pluripotent stem cell while maintaining an undifferentiated state in serum-free and feeder-free, comprising a step of cultivating the pluripotent stem cell in a medium which comprises an albumin, at least one selected from the group consisting of ethanolamine, ethanolamine analogs and pharmaceutically acceptable salts thereof, and substantially free of β-mercaptoethanol, and wherein the concentration of said at least one selected from the group consisting of

ethanolamine, ethanolamine analogs and pharmaceutically acceptable salts thereof in the medium is 11 μM - 200 μM.

6. The method according to claim 5, wherein the amount of fatty acid carried by the albumin in the medium is not more than 9 mg/g.

7. The method according to claim5, wherein the amount of fatty acid carried by the albumin in the medium is not more than 2.2 mg/g.

8. The method according to any one of claims 5 to 7, wherein the medium is further added with sulfated saccharide and/or a pharmaceutically acceptable salt thereof.

9. The method according to any one of claims 5 to 8, wherein the culture is performed by using an extracellular matrix or an active fragment thereof, or an artificial product mimicking the function thereof.

10. The method according to any one of claims 5 to 9, wherein the culture is performed by single cell-seeding.

11. The method according to any one of claims 5 to 10, wherein the pluripotent stem cell is an embryonic stem cell (ES cell) or induced pluripotent stem cell (iPS cell).

12. A medium additive for a proliferation of a pluripotent stem cell while maintaining an undifferentiated state in serum-free and feeder-free, comprising an albumin, at least one selected from the group consisting of ethanolamine, ethanolamine analogs and pharmaceutically acceptable salts thereof, and substantially free of β-mercaptoethanol, and wherein the concentration of said at least one selected from the group consisting of ethanolamine, ethanolamine analogs

and pharmaceutically acceptable salts thereof in the medium is 11 μM - 200 μM.

13. The medium additive according to claim 12, wherein the amount of fatty acid carried by the albumin is not more than 9 mg/g.

14. The medium additive according to claim 12, wherein the amount of fatty acid carried by the albumin is not more than 2.2 mg/g.

15. The medium additive according to any one of claims 12 to 14, further comprising sulfated saccharide and/or a pharmaceutically acceptable salt thereof.

16. A preservation stabilizing method for a medium for a proliferation of a pluripotent stem cell in serum-free and feeder-free, comprising adding an albumin, adding at least one selected from the group consisting of ethanolamine, ethanolamine analogs and pharmaceutically acceptable salts thereof, and adding sulfated saccharide and/or a pharmaceutically acceptable salt thereof, wherein the concentration of said at least one selected from the group consisting of ethanolamine, ethanolamine analogs and pharmaceutically acceptable salts thereof in the medium is 11 μM - 200 μM, and wherein the medium is substantially free of β-mercaptoethanol.

17. The method according to claim 16, wherein the amount of fatty acid carried by the albumin is not more than 9 mg/g.

18. The method according to claim 16, wherein the amount of fatty acid carried by the albumin is not more than 2.2 mg/g.