CLAIMS

1. A method for producing stem cells comprising:
transporting a cell-containing solution through a preintroduction cell solution -feeding channel to a factor introducing device connected to the preintroduction cell solution -feeding channel;
transporting pluripotent inducing factors from a factor storing device that preserves pluripotent inducing factors to the factor introducing device,
introducing the pluripotent inducing factors into cells to prepare factor-introduced cells in the factor introducing device,
transporting the factor-introduced cells from the factor introducing device to a cell mass preparation device through a cell solution-feeding channel; and
culturing the factor-introduced cells to prepare a cell mass comprising stem cells in an initializing culturing apparatus comprised by the cell mass preparation device, and
suppling culture medium to the factor-introduced cells by a culture medium supply device.

2. The method according to claim 1, further comprising amplifying the cell mass comprising stem cells in an amplifying culturing apparatus.

3. The method according to claim 1, wherein the inducing factors are introduced into the cells by RNA lipofection in the factor introducing device.

4. The method according to claim 1, wherein the inducing factors comprise or consist of DNA, RNA, or protein.

5. The method according to claim 1, wherein the inducing factors are incorporated into a vector.

6. The method according to claim 5, wherein the vector comprises or consists of Sendai virus vector.

7. The method according to claim 1, wherein liquid comprising the inducing factors in the factor solution-feeding channel is streamed by a pump, and wherein the pump is a diaphragm pump, a tubing pump, or a Peristaltic Pump^{R}.

8. The method according to claim 1, wherein the initializing culturing apparatus comprises:
a suspension culture vessel that comprises or consists of:
a semipermeable membrane in which the factor-introduced cells and medium have been inserted, and
a vessel in which the semipermeable membrane is placed.

9. The method according to claim 2, wherein the amplifying culturing apparatus comprises:
a suspension culture vessel that comprises:
a semipermeable membrane in which the cell mass and a medium have been inserted, and
a vessel in which the semipermeable membrane is placed.

10. The method according to claim 2, further comprising transporting the factor-introduced cells from the initializing culturing apparatus to the amplifying culturing apparatus through a cell solution-feeding channel.

11. The method according to claim 2 , further comprising transporting the factor-introduced cells through a cell solution-feeding channel from the inside of a semipermeable membrane of a suspension culture vessel of the initializing culturing apparatus to the inside of a semipermeable membrane of a suspension culture vessel of the amplifying culturing apparatus,
wherein the factor-introduced cells and a medium are entered into the semipermeable membrane of the suspension culture vessel of the initializing culturing apparatus, and
wherein the cell mass and a medium are entered into the semipermeable membrane of the suspension culture vessel of the amplifying culturing apparatus.

12. The method according to claim 2, further comprising:
dissociating the cell mass comprising stem cells into at least one first cell mass, and
dissociating the cell mass comprising stem cells into at least one second cell mass, the at least one second cell mass comprising or consisting of cells that have been amplified.

13. The method according to claim 12, wherein the cell mass is dissociated in a cell solution -feeding channel that connects the initializing culturing apparatus to the amplifying culturing apparatus.

14. The method according to claim 12, wherein the cell mass is dissociated into single cells.

15. The method according to claim 12, wherein the cell mass is dissociated by a dissociator having a through -hole in the interior, the through -hole having large pore size sections and small pore size sections connecting with the large pore size sections, wherein the large pore size sections and small pore sections alternate, and the cell mass flows through the through-hole.

16. The method according to claim 12, wherein:
the cell mass is dissociated by dissociator comprising a connecting block with a through -hole provided in the interior of the connecting block, the connecting block comprising a first edge and a second edge,
wherein a recess is provided at the first edge of the connecting block and a protrusion is provided at the second edge of the connecting block, and
wherein protrusions engage with recesses of adjacent connecting blocks, and the through-hole has a first large pore size section that connects with the recess, a small pore size section that connects with the first large pore size section and has a smaller pore size than the first large pore size section, and a second large pore size section that connects with the small pore size section, the second large pore size section having a larger pore size than the small pore size section and an opening at the tip of the protrusion, and
the at least one first cell mass or at least one second cell mass flows through the through-hole.

17. The method according to claim 1, further comprising packaging the cell mass by a packaging device.

18. The method according to claim 17, further comprising freezing the cell mass.

19. The method according to claim 1, wherein a solution exchanger is connected to the cell mass preparation device or initializing culturing apparatus, the solution exchanger comprising:
a tubular component and
a liquid permeable filter disposed inside the tubular component,
the solution exchanger being provided with,
in the tubular component,
a cell mass introduction hole for introduction of solution from the cell mass preparation device or initializing culturing apparatus onto the liquid permeable filter,
an exchange solution introduction hole for introduction of exchange solution onto the liquid permeable filter,
a cell mass outflow hole for outflow of the exchange solution including the cell mass onto the liquid permeable filter, and
a waste liquid outflow hole through which the solution that has permeated the liquid permeable filter flows out.

20. The method according to claim 1, further comprising separating cells from blood to produce a cell-containing solution by a separating device, wherein:
the cell-containing solution passes through the preintroduction cell solution - feeding channel.

21. The method according to claim 20, wherein the separating device separates mononuclear cells from blood.

22. The method according to claim 2, wherein one or more of the factor introducing device, a suspension culture vessel of the initializing culturing apparatus, and/or a suspension culture vessel of the amplifying culturing apparatus is housed by a case.

23. The method according to claim 22, wherein the suspension culture vessel of the initializing culturing apparatus, the suspension culture vessel of the amplifying culturing apparatus, and the case are disposable.

24. The method according to claim 2, wherein at least one from among the factor introducing device, a suspension culture vessel of the initializing culturing apparatus, and a suspension culture vessel of the amplifying

culturing apparatus is housed in each of a plurality of cases.

25. The method according to claim 20, wherein at least one from among the separating device, the factor introducing device, a suspension culture vessel of the initializing culturing apparatus, and a suspension culture vessel of the amplifying culturing apparatus is housed in each of a plurality of cases.

26. The method according to claim 2, further comprising regulating the temperature of a culture medium in the initializing culturing apparatus and the amplifying culturing apparatus by a temperature regulating device.

27. The method according to claim 1, further comprising controlling the inducing factor solution-feeding mechanism, the factor introducing device, and the cell mass preparation device based on an operation procedure by a server, and monitoring whether or not the factor introducing device and the cell mass preparation device are running based on the operation procedure by the server, and creating a running record by the server.