CLAIMS

1. A cell culture system, comprising:

a culture unit including a culture tank for culturing a cell in a culture solution;

an automatic cell culture device automatically controlling the culture of the cell in the culture unit; and

a cell culture device for transport, controlling the culture of the cell in the culture unit at the time of transporting the culture unit,

wherein the culture unit includes,

the culture tank in a shape in which a horizontal sectional area upwardly increases, and

a circulation route for circulating the culture solution such that the culture solution forms an upward flow in the culture tank,

the automatic cell culture device includes,

a first container capable of containing the culture unit,

a first culture environment adjustment unit including a first culture solution supply unit supplying the culture solution to the culture tank of the culture unit contained in the first container, and a first cell collection unit collecting the cell in the culture tank, and adjusting a culture environment in the culture tank of the culture unit contained in the first container, and

a first control unit controlling the circulation of the culture solution along the circulation route of the culture unit, and controlling the adjustment of the culture environment of the first culture environment adjustment unit, and

the cell culture device for transport includes,

a second container capable of containing the culture unit, and

a second control unit controlling the circulation of the culture solution along the circulation route of the culture unit contained in the second container.

2. The cell culture system according to claim 1,

wherein the culture unit includes identification information for specifying the culture unit, which is individually applied,

the cell culture system further comprises: a storage unit storing information relevant to the culture of the cell in the culture unit, in association with the identification information, and

the first control unit of the automatic cell culture device and the second control unit of the cell culture device for transport respectively acquire the information relevant to the culture of the cell in the culture unit, from the storage unit, on the basis of the identification information, and perform control relevant to the culture unit, on the basis of the information.

3. The cell culture system according to claim 1 or 2,

wherein the culture unit further comprises a vibration suppression unit for suppressing a vibration of the culture tank.

4. The cell culture system according to any one of claims 1-3,

wherein the automatic cell culture device further comprises a first cell distribution detection unit detecting a distribution of the cell in the culture tank of the culture unit contained in the first container, and

wherein the first control unit controls a supply amount per unit time of the culture solution to be supplied to the culture tank by the first culture solution supply unit, on the basis of the distribution of the cell in the culture tank, detected by the first cell distribution detection unit.

5. The cell culture system according to any one of claims 1-4,

wherein the automatic cell culture device comprises a first culture environment detection unit detecting the culture environment in the culture tank of the culture unit contained in the first container,

wherein the first control unit controls the adjustment of the culture environment of the first culture environment adjustment unit, on the basis of the culture environment in the culture tank, detected by the first culture environment

detection unit.

6. The cell culture system according to any one of claims 1-5,

wherein the cell culture device for transport further comprises a second culture environment adjustment unit including a second culture solution supply unit supplying the culture solution to the culture tank of the culture unit contained in the second container, and a second cell collection unit collecting the cell in the culture tank, and

wherein the second control unit controls the second culture environment adjustment unit.

7. The cell culture system according to claim 6,

wherein the cell culture device for transport further comprises a second cell distribution detection unit detecting a distribution of the cell in the culture tank of the culture unit contained in the second container, and

wherein the second control unit controls a supply amount per unit time of the culture solution to be supplied to the culture tank by the second culture solution supply unit, on the basis of the distribution of the cell in the culture tank, detected by the second cell distribution detection unit.

8. The cell culture system according to any one of claims 1-7,

wherein the cell culture device further comprises a second culture environment detection unit detecting a culture environment in the culture tank of the culture unit contained in the second container, and

wherein the second control unit controls the adjustment of the culture environment of the second culture environment adjustment unit, on the basis of the culture environment in the culture tank, detected by the second culture environment detection unit.