

### **Sales of an Automated Cell Culture System for Autologous Cell Banks**

A stem cell bank is a business that cultivates, increases, and cryopreserves stem cells<sup>\*1</sup> collected from umbilical cords, adipose, or other tissues to prepare for possible future treatment of diseases and injuries that may occur to you or your relatives. Regenerative medicine and other cellular biotechnologies are undergoing rapid technological innovation. Stem cells processed by state-of-the-art processing can be used to treat intractable diseases, anti-aging, drug discovery research, and other purposes.

There are two kinds of cells by sources, "autologous transplantation " in which use your own cells to culture, and "allogeneic transplantation," in which a large number of cells are cultured and used for many patients. While autologous transplantation has the advantage of being a safe transplantation due to no immunological rejection. it is said to be costly because the production is one by one and cannot be mass-produced. The shortage of cell culture technician is another issue.

Shibuya Corporation ("Shibuya") entered into a supply agreement of an automated cell culture system ("System") with MEDEZE Group Public Company Limited in Bangkok ("MEDEZE"), a largest and most experienced mesenchymal stem cell bank in Asian countries. The System will be installed at MEDEZE's new cell bank facility that offering placenta/cord tissue, adipose tissue banking, in addition to cord blood banking and hair follicles.

The System is the world's first epoch-making automated cell culture system for autologous cells, which integrates the aseptic control technology, cell production technology, and automated transportation technology that Shibuya has been cultivated to date. The System consists of (1) "Cell Processing Unit" that automatically performs all cell culture processes from material supply to medium change and passaging under aseptic conditions, (2) "Incubation Unit" that controls temperature and humidity for each patient cell in approximately 100 independent small cell culture chambers to reduce contamination risk and maintain an optimal environment, and (3) "AiV Unit" which transport each cells using AMR<sup>\*2</sup> in which an AI-optimized processes are employed to improve production efficiency.

The cell culture area requires strict aseptic operation. The cell culture area is an unmanned zone where the robots, the machine, air conditioning system, and information systems are well synchronized, and is completely isolated from the materials (culture material containers and reagents) supply area.

The three main Units are linked to each other and automatically record production data. There is no need for workers to directly process cells or transfer culture containers,

eliminating human intervention as a source of contamination. The entire unmanned zone of the System maintains a constant temperature suitable for cells, optimum environment for the cells as they are very sensitive to physical force and/or temperature changes and enable to improve quality.

The delivery of the System to MEDEZE's new cell banking facility is scheduled in June 2026. By improving the safety of the storage process, which is essential in cell banks, and reducing the risk of human error, the System will enable stable, high-quality cell production and storage, and provide safe and more affordable products.

Shibuya will continue to contribute to society toward the industrialization of regenerative medicine through the development of Dantotsu Products that support the prosperity of our customers and revolutionize manufacturing in industries essential to our lives.

- (1) Stem cells:  
Stem cells are unique cells with the remarkable ability to self-renew (the ability to divide and copy themselves) and differentiate into specialized cell types. Stem cells include pluripotent stem cells (ES cells and iPS cells) and somatic stem cells (hematopoietic stem cells, neural stem cells, etc.).
- (2) AMR stands for Autonomous Mobile Robot. An autonomous mobile robot that can move independently within a space, often used in warehouses, factories, and hospitals for tasks like transporting goods or delivering supplies. It improves production efficiency through cooperative works and flexible transportation.

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