

Innovative Cell Expansion System Enables Real-Time Metabolic Monitoring and Automated Culture Optimization to Accelerate Cell and Gene Therapy Manufacturing

**PHC Corporation of North America**  
**Booth 167**  
**Advanced Therapies Week**  
**January 20th-23rd 2025**  
**Kay Bailey Hutchison Convention Center, Dallas, Texas**

[www.advancedtherapiesweek.phacilitate.com](http://www.advancedtherapiesweek.phacilitate.com)

(Wood Dale, IL, December 10, 2024) **PHC Corporation of North America (PHCNA)**, supplier of the PHCbi brand of cell preservation and growth products in North America and Latin America, will showcase a prototype of its cell expansion system LiCellGrow at Advanced Therapies Week in Dallas, Texas in January. LiCellGrow, currently under development, is being designed to allow pharmaceutical companies to visualize continuous metabolic changes in cells in real time and adjust the cell culture automatically to optimize conditions for cell growth. The system will seek to expand availability of cell and gene therapy (CGT) products by accelerating the manufacturing of specific cells needed for these therapies. CGT has emerged as a promising therapeutic field for difficult-to-treat conditions such as cancers and hematologic disorders. Since the patient's own cells can be used as raw materials, it is essential to maintain stable cell quality when manufacturing CGT products, to monitor and understand natural variations in cell characteristics and ensure consistency throughout the manufacturing process. The current method of evaluating cell quality by manually sampling the final product may lower both manufacturing efficiency and yield, increasing production cost.

LiCellGrow Cell Expansion System will seek to enable more efficient and stable manufacturing of high-quality CGT products by enabling researchers to monitor and control the cell culture environment in real time, optimizing cell quality while minimizing interruption to the therapy manufacturing process.

The LiCellGrow system uses proprietary In-Line monitoring technology, which continuously measures cell metabolites in the culture medium by immersing sensors in the culture medium at all times without the need for manual sampling. LiCellGrow will then continuously and accurately measure concentrations of two critical indicators of cell metabolism, glucose and lactate, to offer a visualization of actual changes in the culture environment and cell status. Based on real-time measurement data, the system will then automatically exchange the culture medium to maintain the culture environment in an optimal state. This revolutionary technology is being designed to improve and homogenize cell quality while increasing cell culture efficiency and reducing costs through loss reduction. The system will also feature dedicated, easy-to-install single-use culture bags with In-Line sensors, which automatically measure the culture medium environment and eliminate the need for

manual sampling of the culture medium to measure the concentration of glucose and lactate. This makes it possible to reduce the risk of cross-contamination, enabling closed-system cell culturing to maintain a sterile environment. The system can be installed in existing cell culture incubators, enabling researchers to conduct studies in their usual work environment.

LiCellGrow is an example of synergy between the Biomedical Division and IVD Division (IVD) of PHC Corporation, a subsidiary of PHC Holdings Corporation (TSE: 6523). The In-Line monitoring technology to be featured in this cell expansion system is newly developed proprietary technology building on the core technology in blood glucose sensors, a product developed by IVD. By combining this sensor technology from IVD with advanced cell culture environment control technology from the Biomedical Division, PHC seeks to offer researchers and pharmaceutical companies greater value.

The Biomedical Division plans to launch LiCellGrow to support the development of manufacturing processes for CGT products globally in the short term, and aims to accelerate development of this system to ultimately support commercialized production of CGT products.

### **About PHC Corporation of North America**

PHC Corporation of North America, located in Wood Dale, IL, is a leader in laboratory equipment for the biopharmaceutical, life sciences, academic, healthcare and government markets. Product lines under the PHCbi brand include the space saving and energy efficient VIP® ECO SMART and TwinGuard® ultra-low temperature freezers, cryogenic and biomedical freezers, pharmacy and high-performance refrigerators, cell culture CO<sub>2</sub> and multigas incubators, and Drosophila/plant growth chambers. PHC Corporation of North America is a subsidiary of PHC Holdings Corporation, Tokyo, Japan, which is a global healthcare company that develops, manufactures, sells, and services solutions across diabetes management, healthcare solutions, diagnostics and life sciences.

### **About the Biomedical Division of PHC Corporation**

Established in 1969, PHC Corporation is a Japanese subsidiary of PHC Holdings Corporation (TSE 6523), a global healthcare company that develops, manufactures, sells, and services solutions across diabetes management, healthcare solutions, life sciences and diagnostics. The Biomedical Division supports the life sciences industry helping researchers and healthcare providers in around 110 countries and regions through its laboratory and equipment and services including CO<sub>2</sub> incubators and ultra-low temperature freezers.

[www.phchd.com/global/phc](http://www.phchd.com/global/phc)

**About PHC Holdings Corporation**

PHC Holdings Corporation (TSE 6523) is a global healthcare company with a mission of contributing to the health of society through healthcare solutions that have a positive impact and improve the lives of people. Its subsidiaries (referred to collectively as PHC Group) include PHC Corporation, Ascensia Diabetes Care Holdings AG, Epredia Holdings Ltd., LSI Medience Corporation, Wemex Corporation, and Mediford Corporation. Together, these companies develop, manufacture, sell and service solutions across diabetes management, healthcare solutions, diagnostics and life sciences. PHC Group's consolidated net sales in FY2023 were JPY 353.9 billion with global distribution of products and services in more than 125 countries and regions.

[www.phchd.com/us/biomedical](http://www.phchd.com/us/biomedical)

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