

PRESS RELEASE

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Yokogawa Releases CellVoyager™ CV7000 High-throughput Cytological Discovery System

Yokogawa Electric Corporation announces the release of the CellVoyager™ CV7000 high-throughput cytological discovery system on October 5. This enhanced system has four times as wide an imaging area as our previous model and surpasses that model's industry leading throughput. The CV7000 will help accelerate the discovery of new drugs and improve the efficiency of advanced biomedical research involving iPS, ES, and other stem cell types.

Yokogawa exhibited this new system at the Academic Screening Workshop, which was held on October 6th in Bridgewater, New Jersey (USA).

Development Background

In the pharmaceutical industry, the use of drug discovery support systems has been expanding to facilitate the screening of hundreds of thousands or even millions of compounds for promising drug candidates. A drug discovery support system automates the processes of administering candidate drugs to cells, imaging changes in the cells, analyzing the obtained images, and confirming the effects of administered compounds.

Drug discovery support systems require high throughput to shorten the new drug discovery period and increased accuracy through the detailed analysis of large amounts of cell data. If priority is given to image-capturing speed and a low power objective lens is used, images of a wide area can be taken, but resolution will be reduced, making it difficult to observe detailed phenomena in the cells. The use of an objective lens with high magnification and a narrow field of view to observe detailed cell conditions requires an enormous number of images and can be time consuming. Drug discovery support systems require wide-view, high-resolution imaging.

To improve the imaging of cells, Yokogawa has upgraded its unique micro lens-enhanced Nipkow disk* confocal technology and developed a new wide-view confocal optical mechanism, and has incorporated these innovations together with a high-resolution camera in the CellVoyager CV7000.

Product Features

1. The highest throughput in the industry with wide-view imaging

The CV7000 offers even higher resolution than our previous model, which was already the best in the industry, while taking images that are four times wider. Previously, it took 16 minutes to obtain fluorescent-stained images of all the wells in a 384-well cell culture plate, whereas the CV7000 can do this in just four minutes.

2. Enhanced analysis software

The analysis software supports multi-core CPUs that are up to 10 times faster than those on our previous model, and so can handle larger amounts of data. Image data management software for managing and arranging large amounts of image data is available as an option.

Main Target Markets

Research and development departments of pharmaceutical companies, drug discovery research institutions, and biomedical basic research organizations

Applications

Screening of candidate compounds for new drugs, regenerative medicine and drug discovery application research with iPS/ES cells, analysis of cell functions, study of tissue formation

* Nipkow disk

A disk with many pinholes placed in spiral patterns to focus laser beams

CellVoyager

In terms of functionality, drug discovery support systems are categorized into high throughput screening (HTS) systems and high content analysis (HCA) systems. HTS is mainly used for screening compounds at high speeds, not for detailed scans of individual cells. HCA is a high-precision measurement method for scanning targeted cells and investigating chronological changes with multiple parameters. Yokogawa estimates that the market for drug discovery support systems combining HTS and HCA systems will be worth 50 billion yen by 2015.

Yokogawa's CellVoyager is an HCA system with similar screening throughput as an HTS system. It consists of a confocal scanner unit capable of observing live cells in real time and a driving mechanism based on precise positioning technology for observing multiple samples at high speed. (This technology was originally developed for semiconductors, LCD panel manufacturing devices, and the like.) With its industry-fastest screening and highest resolution, CellVoyager is greatly valued around the globe

About Yokogawa Corporation of America

Yokogawa Corporation of America is the North American division of \$3 billion Yokogawa Electric Corporation, a global leader in the manufacture and supply of instrumentation, process control, automation services and solutions. Headquartered in Sugar Land, Texas, Yokogawa Corporation of America offers a variety of clients with leading products on the market such as process analyzers, flowmeters, transmitters, controllers, recorders, data acquisition products, measuring instruments, distributed control systems, and more. For more information about Yokogawa, please visit our website www.yokogawa.com/us.

About Yokogawa Electric Corporation

Yokogawa's global network of 25 manufacturing facilities and 80 companies spans 54 countries. Since its founding in 1915, the US \$3 billion company has been engaged in cutting-edge research and innovation, securing more than 7,200 patents and registrations, including the world's first digital sensors for flow and pressure measurement. Industrial automation and control, test and measurement, information systems and industry support are the core

businesses of Yokogawa. For more information about Yokogawa, please visit the website www.yokogawa.com.