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Fluidigm Revolutionizes In Vitro Modeling

New Callisto™ System Provides an Automated Combinatorial Approach to Cell Culture

Fluidigm Revolutionizes In Vitro Modeling for Stem Cell Researchers and Cell Biologists

SOUTH SAN FRANCISCO, Calif., June 24, 2015 – Fluidigm Corporation (NASDAQ:FLDM) today announced its Callisto™ system, a fully automated and programmable microfluidic cell culture system that integrates multifactorial dosing in 32 individual chambers for simultaneous cell culture. This innovative new platform will revolutionize the way cell biologists develop in vitro cell models.

By providing multifactorial dosing, transfection, and precise environmental control of cells in a microfluidic environment, Callisto is the first platform to enable stem cell and other cell researchers to design, optimize, and execute complex cell culture protocols, such as cellular reprogramming, differentiation, characterization, and dose response studies. With just a few touches on a computer screen, biologists will be able to study and analyze the developmental stages and behavior of living cells, such as induced pluripotent stem cells (iPS cells), embryonic stem cells, and other cell types, in their microenvironment over the course of several weeks.

The Callisto system consists of an automated instrument, specialized integrated fluidic circuit, reagent kit, and software suite. With minimal intervention, the platform enables scientists to easily and precisely manipulate the biological pathways that regulate cellular activity and fate decisions while monitoring their viability and phenotypic effects over the course of each study. More importantly, by running automated scripts in a nanoliter scale reaction size, each experiment can be executed with higher efficiency and drastically reduced labor and heterogeneity compared to manual, plate-based studies.

"Fluidigm aims to enable important research that would otherwise be impractical. The Callisto system incorporates some of our finest microfluidic technology to date, and will allow researchers to quickly and easily create complex cell culture environments. This in turn can help reveal how stem cells make fate decisions," said Gajus Worthington, Fluidigm President and Chief Executive Officer. "Callisto makes challenging applications, such as cellular reprogramming and analysis, more accessible to a wide range of scientists. We believe this will move biological discovery forward significantly," Worthington noted.

Fluidigm received two grants (2008 and 2011) from the California Institute for Regenerative Medicine (CIRM) to develop a cell culture chip and support system to accelerate stem cell research, with the hope that a better understanding of what leads stem cells to differentiate into desired types of cells would be useful in the development of therapeutic applications. Currently, there are two approaches to differentiating cells that hold great promise in the field of regenerative medicine. In one approach (iPS), somatic cells (such as fibroblast cells from skin) are reprogrammed into pluripotent stem cells that have the potential to differentiate into any cell type in the body (such as neurons, heart, pancreatic, and liver cells). Another approach (transdifferentiation) reprograms mature somatic cells directly into other somatic cell types without reverting to a stem cell stage. Although both approaches have great scientific and therapeutic potential, many of the existing protocols are difficult to reproduce and result in highly heterogeneous sample populations. The Callisto system will allow researchers to develop simpler and safer protocols with more easily controlled outcomes.

Callisto is designed to seamlessly integrate into Fluidigm's portfolio of genomics and proteomics products. Scientists will be able to harvest single-cell suspensions or bulk culture samples from Callisto and perform downstream analysis with Fluidigm's Biomark™ HD, CyTOF®, and C1™ systems. At launch, the system will support cell culture of adherent cells with validated gene expression workflows using the Biomark and C1 systems. Future applications will include single-cell protein analysis on CyTOF and culture of nonadherent cells, such as blood cells.

Callisto is currently available for pre-order and is expected to begin shipping in the second half of 2015.

The Technology

Reproducible cell culture is a cornerstone of basic research, drug discovery, and cell therapeutics discovery. Scientists rely heavily on in vitro culture to mimic in vivo cellular environments to develop more efficient and predictive disease models. To date, much of this work is done using manual procedures that fail to achieve consistent results due to the complex multi-stage workflow, often involving dozens of chemical and physical steps that must be performed in a precise protocol over a

period of several weeks. This complexity frequently results in long laborious days at the bench for researchers, a need to limit the number of chemical and physical steps, high-heterogeneity, and contamination that can make results difficult to interpret. Safe, simple, precise and reproducible protocols are key to the success of realizing the vast potential of stem cell and cell-based therapy.

The Callisto system addresses these issues directly with hands-free multifactorial dosing and manipulation in 32 independent cell culture chambers. Each chamber can culture dozens to thousands of cells, and can be dynamically dosed with up to 16 different factors for as long as three weeks. The system supports integrated protocols to culture, dose, stain, harvest and lyse cells within each chamber, and provides dynamic dosing and harvesting of some or all of the chambers simultaneously to enable flexible treatment and readout of individual chambers at user-defined time-points throughout the experiment.

With the expanded capabilities offered by the Callisto system, researchers can accelerate our understanding of complex biological processes that drive cell development, disease onset and progression by focusing on experimental design and data analysis rather than dealing with the inconvenience and limitations of basic cell maintenance and optimization.

Use of Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including statements relating to Fluidigm's new products, and Fluidigm's plans, objectives, expectations and/or strategies relating to such new products. Forward-looking statements are subject to numerous risks and uncertainties that could cause actual results to differ materially from currently anticipated results, including challenges inherent in developing, manufacturing, launching, marketing, and selling new products; Fluidigm's sales, marketing, manufacturing, and distribution capabilities; and interruptions or delays in the supply of components or materials for, or manufacturing of, its products. Information on these and additional risks affecting Fluidigm's business and operating results are contained in its filings with the Securities and Exchange Commission, including its Quarterly Report on Form 10-Q for the quarter ended March 31, 2015, and other filings with the Securities and Exchange Commission. These forward-looking statements speak only as of the date hereof and Fluidigm disclaims any obligation to update these statements except as may be required by law.

About Fluidigm

Fluidigm (NASDAQ:FLDM) develops, manufactures, and markets life science analytical and preparatory systems for growth markets such as single-cell biology and production genomics. We sell to leading academic institutions, clinical laboratories, and pharmaceutical, biotechnology, and agricultural biotechnology companies worldwide. Our systems are based on proprietary microfluidics and multi-parameter mass cytometry technology, and are designed to significantly simplify experimental workflow, increase throughput, and reduce costs, while providing excellent data quality. Fluidigm products are provided for Research Use Only. Not for use in diagnostic procedures.

We use our website (www.fluidigm.com), corporate Twitter account ([@Fluidigm](https://twitter.com/Fluidigm)), Facebook page (<https://www.facebook.com/Fluidigm>), and LinkedIn page (<https://www.linkedin.com/company/fluidigm-corporation>) as channels of distribution of information about our products, our planned financial and other announcements, our attendance at upcoming investor and industry conferences, and other matters. Such information may be deemed material information and we may use these channels to comply with our disclosure obligations under Regulation FD. Therefore, investors should monitor our website and our social media accounts in addition to following our press releases, SEC filings, public conference calls, and webcasts.

For more information, please visit: www.fluidigm.com

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