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Cellular Dynamics' iCell Hepatocytes Enable Malaria-in-a-Dish Studies

Study Published in February Issue of Stem Cell Reports Describes Successful Use of iPSC-Derived Cells for Development of Anti-Malarial Drug Testing

MADISON, Wis., Feb. 11, 2015 (GLOBE NEWSWIRE) -- Cellular Dynamics International (CDI) (Nasdaq:ICEL) today announced that its iCell® Hepatocytes, or human liver cells manufactured from induced pluripotent stem cells (iPSCs), have been used as a malaria-in-a-dish model to test anti-malarial drug candidates. Sangeeta N. Bhatia, M.D., Ph.D., of the Institute for Medical Engineering and Science, Massachusetts Institute of Technology, infected the iPSC-derived hepatocytes with parasitic *Plasmodium* species, characterized the cells' drug metabolism capabilities using known antimalarial drugs, and chemically matured the cells to demonstrate higher sensitivity to a different class of drugs. The study was published in [Stem Cell Reports](#).

Key points:

- Malaria affects 250 million people worldwide and occurs following infection with the *Plasmodium* parasite transmitted through a mosquito bite. The parasite travels through the bloodstream to the liver where the organism multiplies. The liver stage of the disease is an attractive target for drug and vaccine development as it captures the parasite before it spreads throughout the blood.
- It is estimated that almost \$6 billion/year will be spent on globally combatting malaria between 2011 and 2020.
- Study investigators demonstrated that CDI's iCell Hepatocytes, or liver cells, could be infected with *Plasmodium* parasites and therefore can be used as an in vitro model of liver-stage malaria to study drug metabolism and thus screen for new drug candidates.
- Previous in vitro models of liver-stage malaria utilized primary hepatocyte lines derived from a small pool of donors that may not represent the larger human population. iPSC-derived hepatocytes can be produced from potentially any donor, allowing a wide spectrum of the population to be studied in future drug screening experiments.
- CDI has the capability to produce iPSC-derived hepatocytes that are manufactured in the quality, quantity and purity required for high-throughput drug screening.

Quotes:

Bob Palay, chairman and chief executive officer of CDI, said, "The World Health Organization estimates that almost half of the world's population is at risk of malaria, and Dr. Bhatia's paper demonstrates how iCell Hepatocytes can be used to find new drugs to fight this deadly disease. This publication demonstrates yet another example of the successful use of CDI's manufactured human cells to model diseases in a dish, a crucial component in drug discovery and development. The potential of CDI's technology as a screening platform to identify new therapies has now been demonstrated for a variety of cell types across a variety of diseases, including Alzheimer's disease, Parkinson's disease, cardiac hypertrophy, muscular dystrophies, and recently a novel disease-in-dish model of Type II diabetic heart disease. We would like to congratulate Dr. Bhatia and her team for their work in laying the foundation for the successful use of iPSC-derived hepatocytes for antimalarial drug discovery."

About Cellular Dynamics International, Inc.

Cellular Dynamics International, Inc. (CDI) is a leading developer and manufacturer of fully functioning human cells in industrial quantities to precise specifications. CDI's proprietary iCell Operating System (iCell® O/S) includes true human cells in multiple cell types (iCell products), human induced pluripotent stem cells (iPSCs) and custom iPSCs and iCell products (MyCell® Products). CDI's iCell O/S products provide standardized, easy-to-use, cost-effective access to the human cell, the smallest fully functioning operating unit of human biology. Customers use our iCell O/S products, among other purposes, for drug discovery and screening; to test the safety and efficacy of their small molecule and biologic drug candidates; for stem cell banking; and in the research and development of cellular therapeutics. CDI was founded in 2004 by Dr. James Thomson, a pioneer in human pluripotent stem cell research at the University of Wisconsin-Madison. CDI's facilities are located in Madison, Wisconsin, with a second facility in Novato, California. See www.cellulardynamics.com.

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Forward-looking Statements

To the extent that statements contained in this press release are not descriptions of historical facts regarding Cellular

Dynamics International, Inc., including statements regarding the potential of our production capability including to produce iPSC-derived hepatocytes for high-throughput screening, they are forward-looking statements reflecting the current beliefs and expectations of management made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Words such as "may," "will," "believe," "expect," "anticipate," "estimate," "intend," and similar expressions (as well as other words or expressions referencing future events, conditions or circumstances) are intended to identify forward-looking statements. Forward-looking statements in this release involve substantial risks and uncertainties that could cause our product development efforts, actual results, performance or achievements to differ materially from those expressed or implied by the forward-looking statements. Cellular Dynamics undertakes no obligation to update or revise any forward-looking statements. For a further description of the risks and uncertainties that could cause actual results to differ from those expressed in these forward-looking statements, as well as risks relating to the business of the Company in general, see Cellular Dynamics' Annual Report on Form 10-K/A filed with the Securities and Exchange Commission on March 11, 2014, which risks are incorporated herein by reference, and as may be described from time to time in Cellular Dynamics' subsequent SEC filings.

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