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[HOME](#) | [PRODUCTS & SERVICES](#) | [QUOTE](#) | [SCIENCE & TECHNOLOGY](#) | [NEWS & EVENTS](#) | [ABOUT CDI](#) | [CONTACT](#)

News & Events


[Press Releases](#)
[CDI in the News](#)
[Events](#)
[Published Research](#)
[Webinars & Podcasts](#)
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Cellular Dynamics Announces Commercial Launch of iCell™ Cardiomyocytes for Drug Candidate Toxicity Screening

Human iCell Cardiomyocytes Provide Alternative to Non-human, Tumor-derived, and Cadaveric Cellular Model Systems to Better Predict Cardiac Toxicity

MADISON, Wis., Dec. 16, 2009 – Cellular Dynamics International (CDI) today announced the commercial launch of iCell™ Cardiomyocytes for use in testing of new drug candidates by the pharmaceutical industry. These human heart cells are designed to aid drug discovery and improve the predictability of drug compound efficacy and toxicity screens, weeding out ineffective and potentially toxic compounds early in the pharmaceutical pipeline process before significant time and resources have been invested.

iCell Cardiomyocytes are derived from [induced pluripotent stem \(iPS\) cells](#), spontaneously beat *in vitro* (see movie), and exhibit the electrophysiological and biochemical properties of normal human heart cells. Thus, iCell Cardiomyocytes provide significant advances over non-human cell models, which may exhibit a different response than human tissue; tumor-derived cell models, which are genetically different than normal cells; and cadaveric cells, which exhibit batch-to-batch variability, de-differentiate under *in vitro* conditions, and exhibit non-cardiomyocyte behaviour.

iCell Cardiomyocytes are the first product ever developed from iPS cells, discovered by CDI senior research fellow Junying Yu, Ph.D., then a postdoctoral research associate in the University of Wisconsin-Madison laboratory of James Thomson, V.M.D., Ph.D., in 2007. iCell Cardiomyocytes are produced in-house by CDI from a master cell bank of iPS cells expanded from a single clonal population reprogrammed from fully mature human cells using Dr. Thomson's patented technology. Based on strong intellectual property and exclusively licensed patents from several universities, CDI has developed a proprietary process to industrialize iCell Cardiomyocytes production so that the cardiomyocytes are manufactured at the high quantity, quality and purity required by pharmaceutical companies. CDI has successfully engaged in pre-launch validation testing with several pharmaceutical customers.

"Drug toxicity testing is an important part of early-stage drug development, said Chris Parker, chief commercial officer of CDI. "The problem our pharmaceutical customers face today is that current cell models to test drugs are inadequate, because they are either non-human, cadaveric, or tumor-derived cells. They miss toxicities that might have manifested themselves in a human cell model. With the launch of iCell Cardiomyocytes, we hope to improve the efficiency and effectiveness of preclinical research studies, so that our pharmaceutical customers are more assured of the safety and efficacy of their drug candidates and a better return on their research investment."

Robert Palay, chief executive officer of CDI, continued, "Launching iCell Cardiomyocytes to the pharmaceutical industry is an important step for Cellular Dynamics. We have shown that we can manufacture and provide validated human iPS cell-derived terminally differentiated cardiomyocytes in the quantity and quality needed by our customers. We look forward to growing this product with our pharmaceutical customers and developing line extensions of iCell Cardiomyocytes, including panels with multiple iPS starting materials, as well as launching other iPS cell-derived iCell products."

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James Thomson, chief scientific officer of CDI, said, "Rapid application of stem cell technology has been a goal both of my laboratory at the University of Wisconsin and CDI. Utilizing human iPS cells for new drug toxicity testing should improve the drug discovery process in a timeframe that has an effect on human healthcare now, not 10 years from now. Ultimately applications of stem cell technology in drug discovery will provide great utility and enable movement toward a long-term goal of cellular-based therapeutics and personalized medicine."

About Cellular Dynamics International, Inc.

Cellular Dynamics International, Inc. (CDI) is a leading developer of next-generation tools and services for drug discovery, screening, and predictive toxicology. CDI harnesses the power of pluripotent stem cells and their ability to differentiate into any cell type for world-class drug development, including a regulatory-approved service facility. CDI was founded in 2004 by [Dr. James Thomson](#), a pioneer in human embryonic stem cells from the University of Wisconsin-Madison. CDI's facilities are located in Madison, Wisconsin.

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