

株式会社 iPS ポータル / iPS ビジネス促進拠点 CBI 学会 2014 年大会 スポンサーセッション



日時：10月29日（水） 14:00-15:30

場所：2階 桃源

演題：Accelerating Disease Research & Drug Discovery: Case Studies Using Human iPSC-based Models

演者：Dr. Eugenia Jones, Cellular Dynamics International, Inc. (CDI 社)

Abstract

Accelerating Disease Research & Drug Discovery: Case Studies Using Human iPSC-based Models

Eugenia Jones, Blake Anson, Susan DeLaura, Dave Mann, Vanessa Ott, Pat Brooks



Access to clinically relevant human cell models has been a significant limitation in the elucidation of disease mechanisms and the development of novel therapies. Induced pluripotent stem cell (iPSC) technology offers the potential to develop such model systems. Since their first description in 2007, iPSCs and iPSC-derived tissue cells (e.g., cardiomyocytes, neurons, hepatocytes) have been created from donors representing a wide range of genotypes and/or disease phenotypes. In many cases, iPSC-derived tissue cells have been shown to recapitulate the donor's biology in vitro. These findings combined with the recent availability of industrial quantities of highly pure and functionally relevant human iPSC-derived tissue cells is rapidly changing drug discovery, development and safety paradigms.

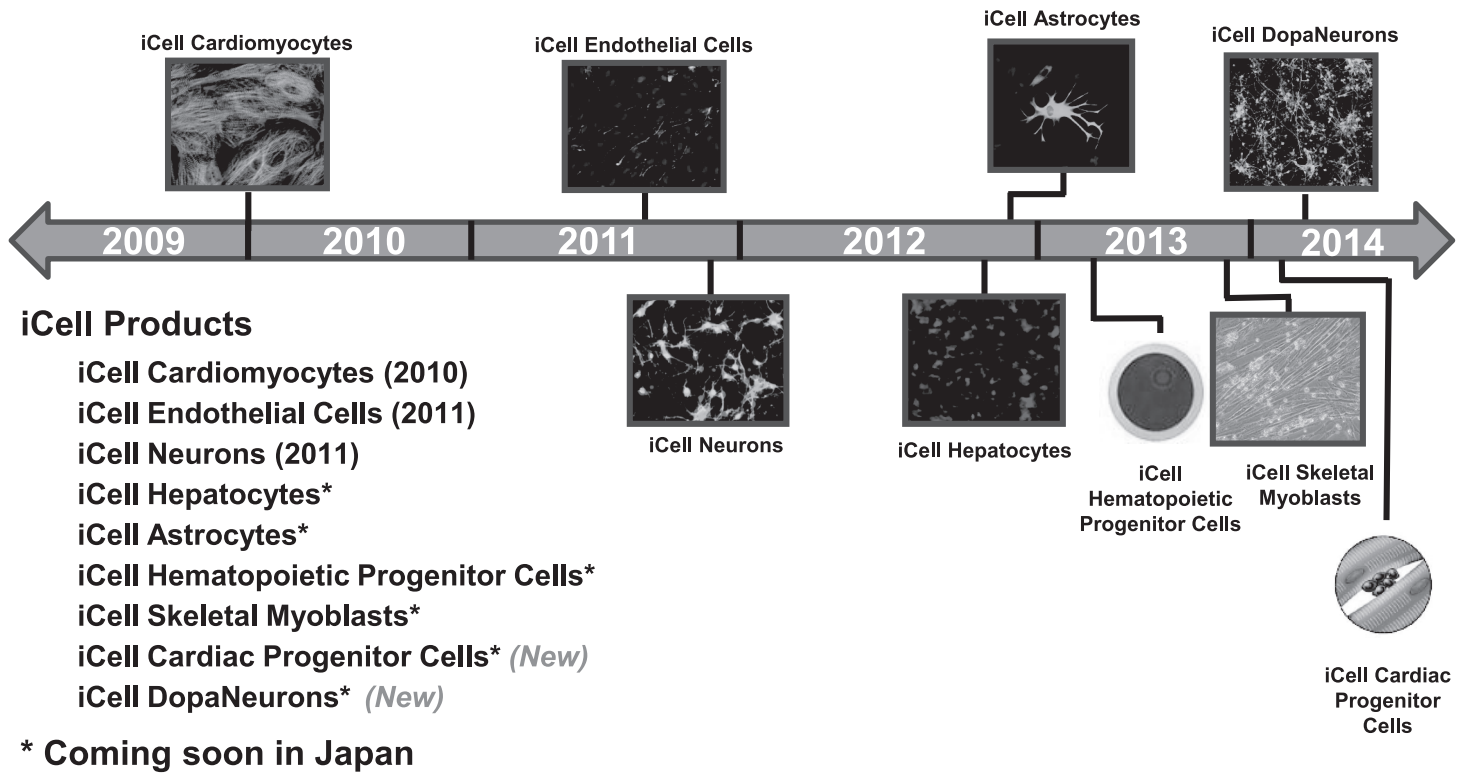
We have developed a cell manufacturing pipeline to produce industrial quantities of highly pure and functionally relevant human iPSC-derived tissue cells across large donor cohorts. Specifically, we have developed human iPSC-derived cardiomyocytes, cortical neurons, astrocytes, midbrain dopaminergic neurons, skeletal myoblasts, hepatocytes, endothelial cells, and others from both apparently healthy donors and donors with disease phenotypes of known and unknown etiology. The iPSC-derived tissue cells exhibit relevant biological characteristics and functions, can be manipulated through genetic engineering and/or transient expression of gene modulating agents, and are rapidly being employed in various approaches for disease modeling and drug screening. Here, we present data demonstrating the use of human iPSC-derived tissue cells for a variety of applications, including (1) cardiac hypertrophy screening, (2) Alzheimer's disease modeling and screening, (3) viral infectivity studies, and (4) glucose regulation and diabetes drug discovery.



- Cellular Dynamics International (CDI) is the world's largest producer of human iPSC cells and iPSC cell-derived cell types.
- Partnership with iPS PORTAL, Inc. enables access and support for CDI's products in Japan.

Product Portfolio

2010 -2014

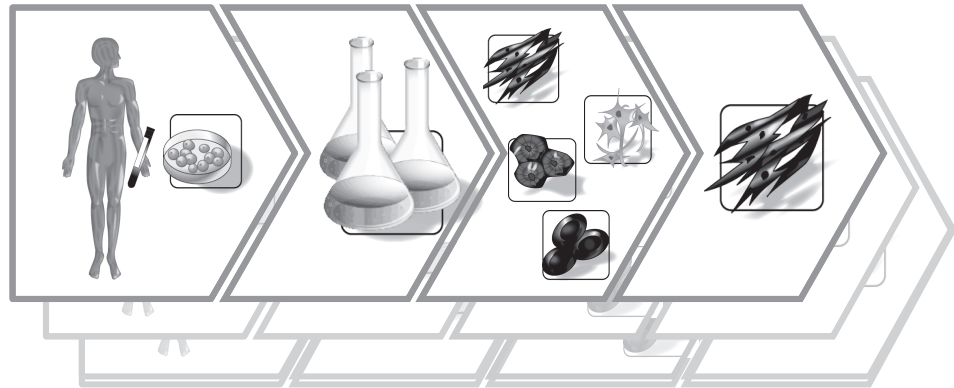


How do we do it?

Manufacturing Benchmarks

Scale-Up Manufacturing

- Quality
- Quantity
- Purity



CDI Manufacturing Benchmarks (cells per day, >95% purity)

- Constant iPSC culture
- 1 billion cardiomyocytes
- 1 billion neurons
- 0.5 billion endothelial cells
- 0.4 billion hepatocytes

製品の取扱い・お問合わせ先
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