Cellular Dynamics international
a FUJIFILM company

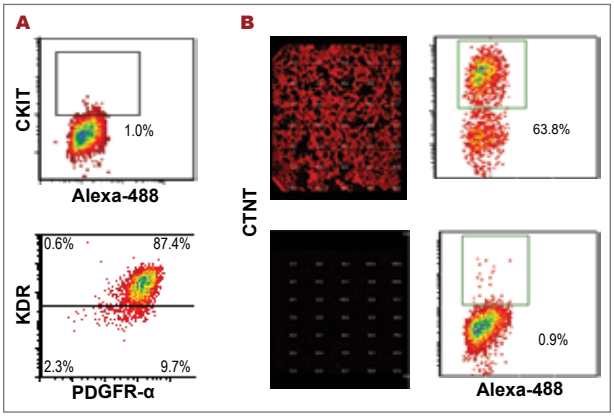
PRODUCT DATASHEET

iCell® Cardiac Progenitor Cells

Cellular Dynamics International (CDI) offers iCell® Cardiac Progenitor Cells, the only commercially available, truly human cardiac progenitor. Derived from human induced pluripotent stem (iPS) cells, iCell Cardiac Progenitor Cells are a population of dynamic progenitors that are able to differentiate into terminally derived cardiac cell types, thus providing an in vitro doorway into native developmental cardiac biology.

Cardiac progenitor cells (CPCs) represent the earliest stages of mesodermal commitment to the cardiac lineage. iCell Cardiac Progenitor Cells show a classical CPC marker profile of KDR/PDGFR-α^{pos}/CKIT^{neg} and are responsive to permissive conditions for proliferation as a progenitor population and/or differentiation into terminal cardiac cell types. Such in vitro recapitulation of native biology provides a powerful tool for understanding cardiac development and regeneration while enabling therapeutic research programs directed against cardiac ailments and disease states that have been difficult, if not impossible, to investigate with relevant human material.

CPCs are traditionally accessed through labor-intensive isolations from non-human primary tissue sources. Such isolations typically yield small numbers of true progenitors, suffer from source availability and variability, and ultimately must be translated to the human condition. iCell Cardiac Progenitor Cells are derived in industrial volumes through controlled conditions from a single population of human iPS cells, thereby circumventing sourcing, variability, and species-related limitations.



▲ **Figure 1: iCell Cardiac Progenitor Cells Provide Relevant Biology**
(A) Flow cytometry measurements of iCell Cardiac Progenitor Cells as a KDR/PDGFR-α^{pos}/CKIT^{neg} cell population. (B) Immunocytochemical staining and flow cytometry analysis of iCell Cardiac Progenitor Cells before (bottom) and after (top) differentiation into cardiomyocytes.

Advantages

- **Human cells:** iCell Cardiac Progenitor Cells are terminally differentiated from human iPS cells and exhibit markers and functional characteristics of true cardiac progenitor cells.
- **Homogenous and reproducible:** iCell Cardiac Progenitor Cells are highly pure, providing biologically relevant and reproducible results.
- **Suitable for screening:** iCell Cardiac Progenitor Cells respond to environmental conditions and can be used to screen for agents to modulate proliferation and/or differentiation.
- **Easy to implement:** iCell Cardiac Progenitor Cells are shipped cryopreserved with re-animation instructions. Simply thaw and use.

The human origin, high volume, high quality, and robust nature of iCell Cardiac Progenitor Cells provide a relevant substrate for traditional small molecule/biologic discovery screens, as well as a platform to develop methods whereby progenitor cells can be used as a regenerative medicine therapeutic.

Applications

iCell Cardiac Progenitor Cells are amenable to use on multiple platforms to study a variety of cellular functions and assay endpoints including:

- Developmental toxicity
- Differentiation competency
- Proliferative capacity

Specifications

Cell Type	Cardiac progenitors
Organism	Human
Source	Differentiated from a CDI reprogrammed human iPS cell line
Quantity	≥5.0 x 10^6 viable cells
Shipped	Frozen
Storage	Liquid nitrogen
Media	None

Ordering Information

Kit	Component(s)*	Catalog Number
iCell Cardiac Progenitor Cells Kit, 01279	≥5.0 x 10^6 viable cells	R1093

* A User's Guide is provided in each kit.

For More Information

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CDI Products & Services

iCell Products

Provide access to biologically relevant, human iPS cells for disease modeling, drug discovery, toxicity testing, and regenerative medicine. CDI's rapidly growing portfolio of iCell products includes human cardiomyocytes, GABAergic, glutamatergic, and dopaminergic neurons, hepatocytes, endothelial cells, astrocytes, hematopoietic progenitor cells, skeletal myoblasts, and others.

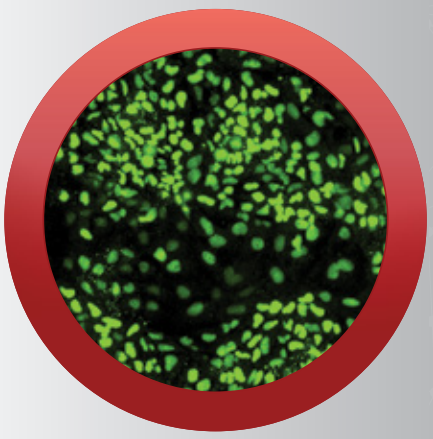
Visit the CDI website for the most current list of supported cell types.

MyCell® Products

Include differentiated cells produced from disease-associated iPS cell lines, as well as iPS cell reprogramming, genetic engineering, and differentiation from customer-defined samples.

iCertification Training Programs

Master the use of iCell products by completing an iCertification Training Program. Attendees receive in-depth, interactive training on the handling and application of iCell products on cutting-edge technologies.



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