FUJIFILM
Cellular Dynamics

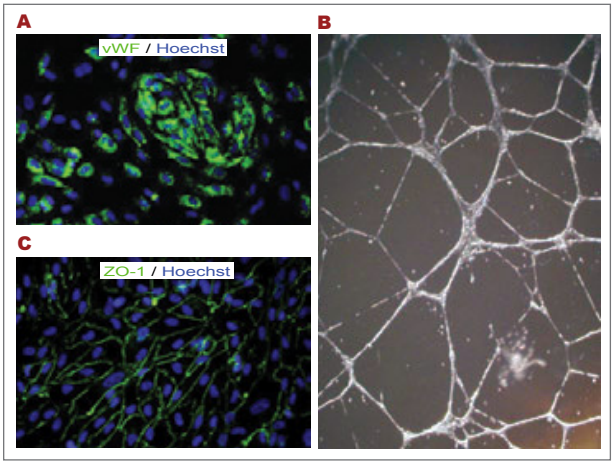
PRODUCT DATASHEET

iCell® Endothelial Cells

FUJIFILM Cellular Dynamics, Inc. (FCDI), offers iCell® Endothelial Cells, human induced pluripotent (iPS) cell-derived endothelial cells that provide a relevant, fully functional, in vitro human model and exhibit the expected characteristics and functions. These cells enable powerful new strategies for vascular-targeted drug discovery, tissue regeneration, and predictive disease modeling.

Endothelial cells play a key role in a broad range of physiological, immunological, and pathological processes across many disease states. Endothelial dysfunction is a common promoter of cardiovascular disease, atherosclerosis, inflammation, and high blood pressure and also plays a role in supporting tumor growth. Additionally, endothelial cells separate circulating blood from the brain, an interface known as the blood-brain barrier. While vital for protection against bacterial infections, the blood-brain barrier presents a challenge in the delivery of diagnostic and therapeutic agents to the brain.

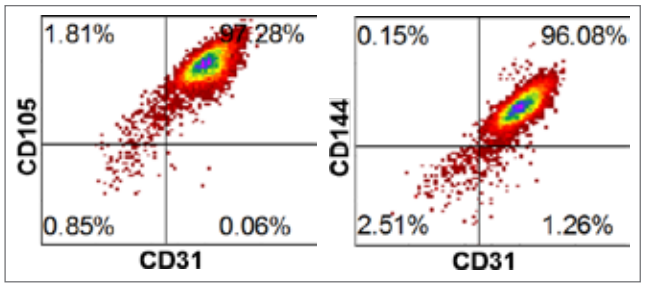
Unfortunately, current endothelial cell models are not truly reflective of human biology thus decreasing their utility in endothelial dysfunction studies. Additional growth factors are commonly added to cultures to overcome poor growth or attachment issues at the expense of altering endothelial cell function. In addition, these cell models are limited in quantity and display batch-to-batch variability. iCell Endothelial Cells overcome these limitations, providing a robust, well-characterized, highly reproducible in vitro model for vascular biology research and drug discovery.



▲ **Figure 1: iCell Endothelial Cells Display Expected Markers and Functions**
(A) When immunostained for von Willebrand Factor (vWF), the cells showed characteristic Weibel-Palade body staining. (B) In a thick layer of Matrigel, the cells exhibited the capacity to form tubes. (C) To assess the barrier function, the cells were immunostained for the tight junction protein ZO-1.

Advantages

- **Human cells:** iCell Endothelial Cells are differentiated from human iPS cells and exhibit characteristics and functions of endothelial cells.
- **Homogenous and reproducible:** iCell Endothelial Cells are highly pure, providing biologically relevant and reproducible results.
- **Acute and long-term testing:** iCell Endothelial Cells actively proliferate, remaining viable and pure in culture for weeks, enabling assessment of both acute and sub-chronic responses.
- **Easy to implement:** iCell Endothelial Cells are shipped cryopreserved with cell culture medium supplement specifically formulated for optimal cell performance. Simply thaw and use.



▲ **Figure 2: iCell Endothelial Cells Are a Highly Pure Population**
The cells have >90% expression of CD105 (endoglin), CD31 (PECAM-1) and CD144 (VE-cad) as determined by flow cytometry analysis.

Applications

iCell Endothelial Cells are amenable to a variety of assays including:

- Angiogenesis/Vasculogenesis
- Cell adhesion
- Cell invasion
- Cell migration
- Cell permeability
- Cell proliferation
- Impedance/Barrier function
- Tube formation

Specifications

Cell Type	Endothelial cells
Organism	Human
Source	Differentiated from an FCDI reprogrammed human iPS cell line
Quantity	≥1.0 x 10^6 viable cells per vial
Shipped	Frozen

Ordering Information

Kit	Component(s)[1, 2]	Catalog Number
iCell Endothelial Cells Kit, 11713	≥1.0 x 10^6 viable cells 50 ml Medium Supplement	R1112
iCell Endothelial Cells Medium Supplement	50 ml Medium Supplement	M1019

1 A User's Guide is provided in each kit.
2 Additional medium is required: VascuLife VEGF Medium Complete Kit (LifeLine Cell Technology, Cat. No. LL-0003)

For More Information

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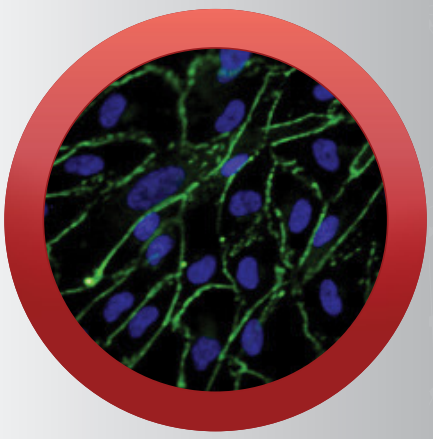
iCell Products

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

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



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