iCell® Endothelial Cells

Cellular Dynamics 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.

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.
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, neurons, hepatocytes, endothelial cells, astrocytes, hematopoietic progenitor cells, skeletal myoblasts, dopaminergic neurons, 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.

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

<table>
<thead>
<tr>
<th>Cell Type</th>
<th>Endothelial cells</th>
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<tbody>
<tr>
<td>Organism</td>
<td>Human</td>
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<tr>
<td>Source</td>
<td>Differentiated from a CDI reprogrammed human iPS cell line</td>
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<tr>
<td>Quantity</td>
<td>≥1.0 x 10^6 viable cells/unit</td>
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<tr>
<td>Shipped</td>
<td>Frozen</td>
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<tr>
<td>Storage</td>
<td>Liquid nitrogen</td>
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<tr>
<td>Media</td>
<td>iCell Endothelial Cells Medium Supplement</td>
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Ordering Information

<table>
<thead>
<tr>
<th>Product</th>
<th>Component(s)</th>
<th>Catalog #</th>
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<tbody>
<tr>
<td>iCell Endothelial Cells Kit</td>
<td>≥1.0 x 10^6 viable cells 50 ml Medium Supplement*</td>
<td>ECC-100-010-001</td>
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<tr>
<td>iCell Endothelial Cells Medium Supplement</td>
<td>50 ml Medium Supplement*</td>
<td>ECM-100-030-001</td>
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* Additional medium required: VascuLife VEGF Medium Complete Kit (LifeLine Cell Technologies, Catalog # LL-0003)

For More Information

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