

CELL APPLICATIONS, INC.

Published on *Cell Applications* (<https://www.cellapplications.com>)

[Home](#) > Human Umbilical Vein Endothelial Cells: HUVEC

Human Umbilical Vein Endothelial Cells: HUVEC

- Description
- Details
- Products
- Resources

Instructions HUVEC

5 Important Cell Culture Rules

MSDS Cryopreserved Cells

Cell Apps Flyer Cardiovascular Cells

Cell Apps Flyer Endothelial Cells

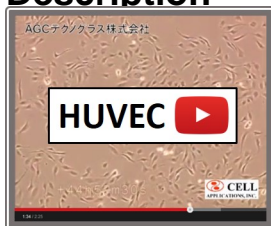
Cell Apps Flyer HUVEC

Cell Apps Poster Primary Cells

Cell Applications Inc Brochure

Product Sheet CP10379

Description



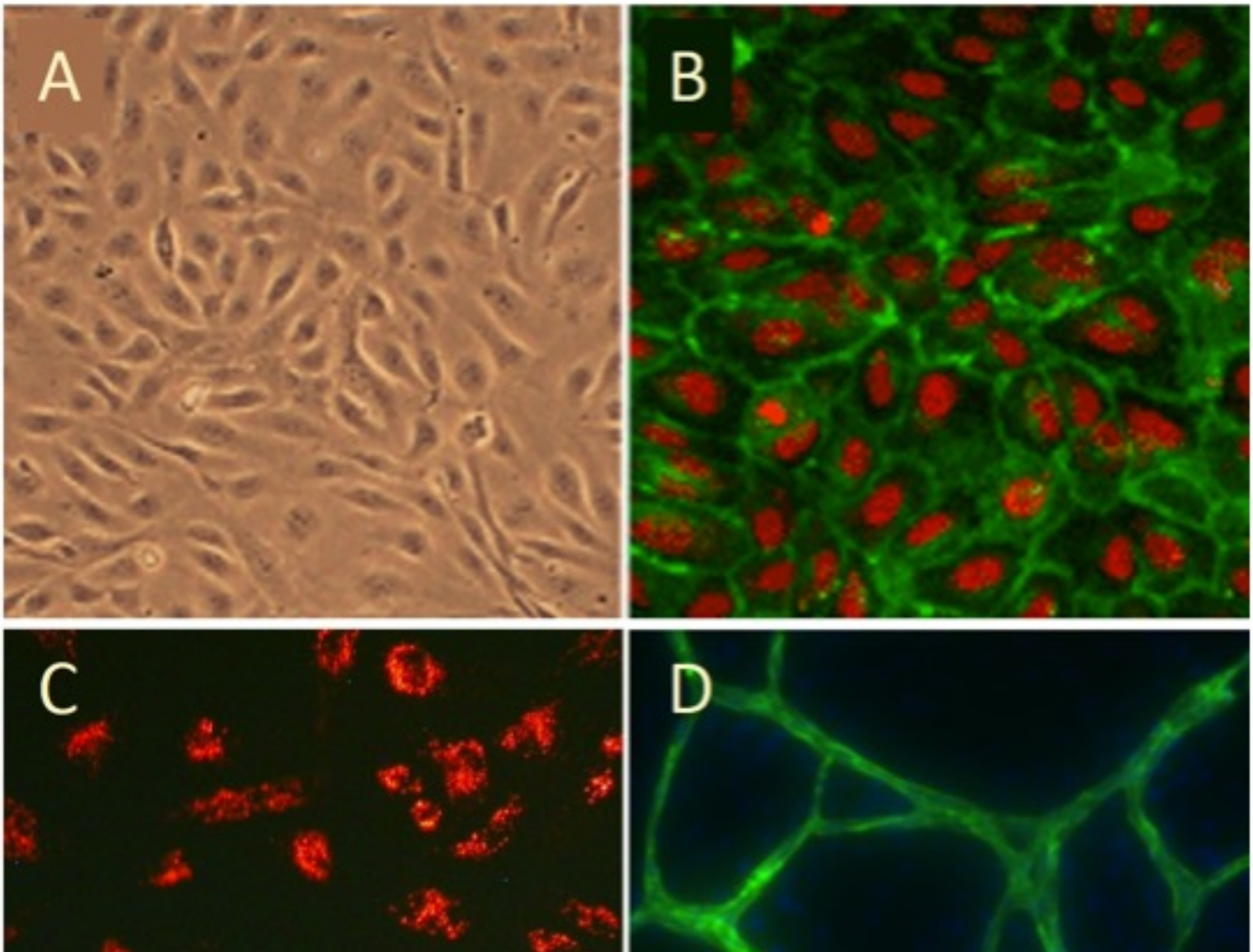
[1] **Human Umbilical Vein Endothelial Cells (HUVEC)** provide a classic model system to

study many aspects of endothelial function and disease, such as normal, abnormal and tumor-associated angiogenesis, oxidative stress, hypoxia and inflammation related pathways in endothelia under normal and pathological conditions, cardiovascular-related complications associated with various diseases, mode of action and cardiovascular protection effects of various compounds, etc.

Select HUVEC lots have been tested to demonstrate stimulation-dependent angiogenesis and key endothelial cell signaling pathways (phosphorylation of VEGFR2). More information about pre-screened endothelial cells can be found on the [Pre-Screened Endothelial Cell Product Page](#) [2].

HUVEC from Cell Applications, Inc. have been utilized in numerous research publications, for example, to:

- Understand anti-inflammatory properties of HDL
- Develop scaffolds for tissue engineering
- Characterize endothelial cell response to stress and discover mechanisms that protect mitochondria against oxidative stress
- Demonstrate that prolonged hypoxia induces MMP-1 expression, EC migration and angiogenesis
- Show that Alzheimer's β -amyloid peptide exhibits anti-angiogenic properties
- Demonstrate for the first time that mature miRNA can control gene expression in a cell where it is neither transcribed nor processed
- Show that abnormal matrix composition characteristic for systemic sclerosis leads to impaired vascular function and angiogenesis
- Discover novel mechanisms of inhibiting tumor angiogenesis and metastasis, by limiting EC migration and proliferation, as well as the expression of growth factors and enzymes
- Develop a bubble liposome based system that enables therapeutic miRNA delivery
- Demonstrate that commercially used flame retardants cause oxidative stress
- Show that hyperglycemia leads to endothelial dysfunction, partially due to depletion of antioxidants, and that regaining glycemic control normalizes growth factor levels in ischemia and improves perfusion recovery
- Show that inhibition of aldose reductase inhibits migration and formation of capillary-like structures by endothelial cells
- Investigate effects of molecular mobility of the outmost material surfaces on cellular adhesion and organization
- Identify signaling differences in cells cultured on different ECM components.
- Investigate mechanisms of cardiovascular protection exerted by bioactive plant and fungal components
- Show that in low doses coumaric acid and resveratrol provide beneficial effects and protect endothelial cells from reactive oxygen species
- Show that combined treatment with melatonin and atorvastatin reversed damage to EC, partly by reducing free radical generation and lipid peroxidation
- Discover that deferoxamine (DFO), an iron-chelating agent, mitigates deleterious effects of radiation on angiogenesis
- Study the differential effects of wood smoke and diesel exhaust particles, as well as carbon nanotubes on inducing oxidative stress and production of cytokines and adhesion molecules in endothelia



^[3]
(Click to Enlarge) **Human Umbilical Vein Endothelial Cell (HUVEC)** are (A), immunolabeled with VEGFR2 antibodies (green, B), stained with EC-specific Dil-Ac-LDL (red, C), and forming vessel-like structures (green) when cultured with HDF in the presence of VEGF. Nuclei are visualized with PI (red, B) or DAPI (blue, D).

Details

Tissue	Healthy human umbilical vein
QC	No bacteria, yeast, fungi, mycoplasma, virus
Character	Factor VIII-related Ag, Dil-Ac-LDL uptake. S-HUVEC are select HUVEC lots that have been tested positive for VEGFR2 pathway activation following stimulation by VEGF.
Bioassay	Attach, spread, proliferate in Growth Med
Cryovial	500,000 HUVEC (primary culture) in Bas Med w/ 10% FBS, 10% DMSO
Kit	Cryovial frozen HUVEC (200-05n), Growth Medium (211-500), Subculture Rgnt Kit (090K)
Proliferating	Shipped in Tsfr Med, 1st psg (flasks or plates)
Doublings	At least 16
Applications	Laboratory research use only (RUO). Not for human, clinical, diagnostic or veterinary use.

Instructions HUVEC

Format: PDF

[Download Now](#) ^[4]

MSDS Cryopreserved Cells

Format: PDF

[Download Now](#) ^[5]

Products

Related Products

Extended Family Products

Resources/Documents

[Product Sheet CP10379](#) ^[6]

5 Important Cell Culture Rules

Format: PDF

[Download Now](#) ^[7]

Cell Apps Flyer Cardiovascular Cells

Format: PDF

[Download Now](#) ^[8]

Cell Apps Flyer Endothelial Cells

Format: PDF

[Download Now](#) ^[9]

Cell Apps Flyer HUVEC

Format: PDF

[Download Now](#) ^[10]

Cell Apps Poster Primary Cells

Format: PDF

[Download Now](#) ^[11]

Cell Applications Inc Brochure

Format: PDF

[Download Now](#) ^[12]

Misc. Links

-
-
-
-
-
-
-

[Site](#)
[Privacy](#)
[Returns](#)
[Shipping](#)
[Terms](#)
[Disclaimer](#)
[Distributors](#)

Contact Us

Cell Applications, Inc
6455 Weathers Place
San Diego, CA 92121
Open M-F, 8am-5pm PST

858-453-0848
info@cellapplications.com

Socialize With Us

•

Stay Informed

Leave this field blank
Submit

Source URL:<https://www.cellapplications.com/human-umbilical-vein-endothelial-cells-huvec?id=82>

Links

[1] <http://youtu.be/rdayl3wKiU4> [2] <https://www.cellapplications.com/human-endothelial-cells-pre-screened>
[3] https://www.cellapplications.com/sites/default/files/images_product_type/HUVEC.jpg
[4] <https://www.cellapplications.com/sites/default/files/documents/instructions/Instructions HUVEC.pdf>
[5] <https://www.cellapplications.com/sites/default/files/documents/msds/MSDS Cryopreserved Cells.pdf>
[6] <https://www.cellapplications.com/sites/default/files/documents/product-sheets/Product Sheet CP10379 HIF-1alpha 160809.pdf> [7] <https://www.cellapplications.com/sites/default/files/documents/misc/5 Important Cell Culture Rules 1805.pdf> [8] <https://www.cellapplications.com/sites/default/files/documents/misc/Cell Apps Flyer Cardiovascular Cells.pdf>
[9] <https://www.cellapplications.com/sites/default/files/documents/misc/Cell Apps Flyer Endothelial Cells.pdf> [10] <https://www.cellapplications.com/sites/default/files/documents/misc/Cell Apps Flyer HUVEC.pdf> [11] [https://www.cellapplications.com/sites/default/files/documents/misc/Cell Apps Poster Primary Cells \(2017\).pdf](https://www.cellapplications.com/sites/default/files/documents/misc/Cell Apps Poster Primary Cells (2017).pdf) [12] <https://www.cellapplications.com/sites/default/files/documents/misc/Cell Applications Inc Brochure 2017.pdf>