

Product Information

Human Umbilical Vein Endothelial Cells (HUVEC)

Catalog Number	10HU-012	Cell Number	0.5 x 10 ⁶ cells/vial
Species	<i>Homo sapiens</i>	Storage Temperature	Liquid Nitrogen

Description

iXCells Biotechnologies provides high quality Human Umbilical Vein Endothelial Cells (HUVEC), which are isolated from human umbilical vein of mix donors, and cryopreserved at P2, with >0.5 million cells in each vial. HUVEC have “cobblestone” morphology and positive staining with vWF/Factor VIII and CD31. HUVEC are one of the mostly used cell types to study endothelial function *in vitro*, including angiogenesis^[1], signaling pathway under normal and pathological condition such as oxidative stress, hypoxia^[2] and inflammation etc. These HUVEC are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast and fungi and can further expand for 12 population doublings in Endothelial Cell Growth Medium (Cat# MD-0010) under the condition suggested by iXCells Biotechnologies.

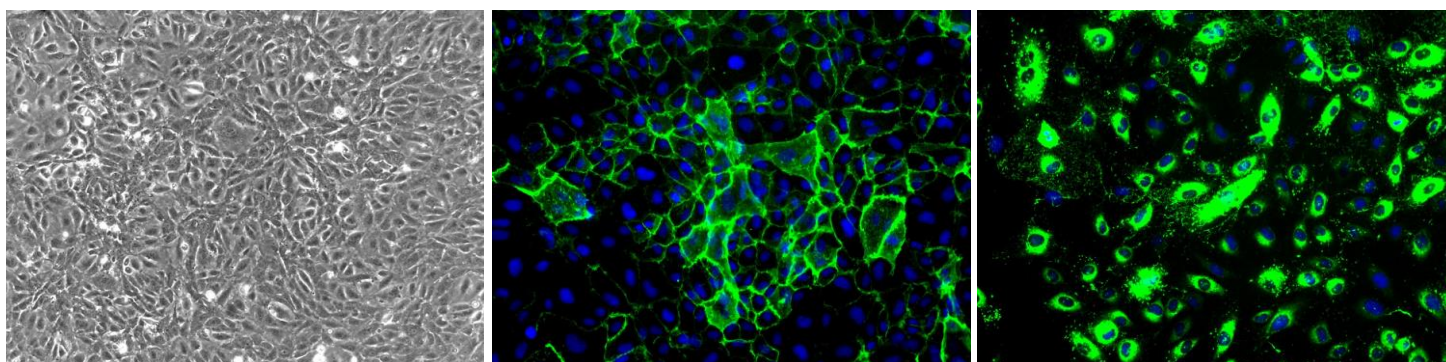


Figure 1. (A) HUVECs phase contract.

(B) HUVECs CD31 staining.

(C) HUVEC vWF staining

Product Details

Tissue	Human umbilical cord tissue
Package Size	0.5 x10 ⁶ cells/vial
Passage Number	P2
Shipped	Cryopreserved
Storage	Liquid nitrogen
Growth Properties	Adherent
Media	Endothelial Cell Growth Medium (Cat# MD-0010)

Protocols

Thawing of Frozen Cells

1. Upon receipt of the frozen HUVEC, it is recommended to thaw the cells and initiate the culture immediately in order to retain the highest cell viability.
2. To thaw the cells, put the vial in 37°C water bath with gentle agitation for ~1 minute. Keep the cap out of water to minimize the risk of contamination.
3. Pipette the cells into a 15ml conical tube with 5ml fresh Endothelial Cell Growth Medium (Cat# MD-0010).
4. Centrifuge at 1000rpm (~220g) for 5 minutes under room temperature.
5. Remove the supernatant and resuspend the cells in fresh Endothelial Cell Growth Medium.
6. Culture the cell in T75 flask.

Safety Precaution: *it is highly recommended that protective gloves and clothing should be used when handling frozen vials.*

Standard Culture Procedure

1. HUVECs can be cultured in Endothelial Cell Growth Medium (Cat# MD-0010).
2. When cells reach ~80-90% confluence, remove the medium, and wash once with sterile PBS (5ml/T75 flask).
3. Add ~2.5ml of 0.25% Trypsin-EDTA to the flask and incubate for ~3 minutes at 37°C. Neutralize the enzyme by adding 2-3 volumes of cell culture medium.
4. Centrifuge 1000rpm (~220g) for 5min and resuspend the cells in desired volume of medium.
5. Seed new culture vessels at 5×10^3 cells/cm².

References

- [1] Park HJ, Zhang Y, Georgescu SP, Johnson KL, Kong D, Galper JB (2006). "Human umbilical vein endothelial cells and human dermal microvascular endothelial cells offer new insights into the relationship between lipid metabolism and angiogenesis". *Stem Cell Rev* 2 (2): 93–102.
- [2] Nallamshetty S, Chan SY, and Loscalzo J. Hypoxia: a master regulator of microRNA biogenesis and activity. *Free Radic Biol Med*. 2013; 64: 20-30.

Disclaimers

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