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Product Information

Human Pancreatic Microvascular Endothelial Cells (HPaMEC)

Catalog Number	10HU-071	Cell Number	0.5 x 10^6 cells/vial
Species	*Homo sapiens*	Storage Temperature	Liquid Nitrogen

Description

The pancreas is an endocrine gland and digestive organ which secretes hormones and produces pancreatic juice to aid in digestion [1,2].Pancreatic islets function as pancreatic endocrine cells to produce vital hormones such as glucagon, insulin, and amylin [1,2]. Hence, Human Pancreatic Microvascular Endothelial Cells (HPaMEC) play a critical role to support the islet by transporting oxygen and nutrients to the pancreas, and affecting beta ell function and proliferation, influencing insulin gene expression during islet development, and product various growth factors [1,2]. Additionally, HPaMEC are involved in optimizing blood glucose sensing and regulation. HPaMEC can be used an in vitro model for studying islet biology, pancreatic cancer, transplantation, and regenerative medicine.

iXCells Biotechnologies provides high quality HPaMEC, which are isolated from human pancreatic tissue and cryopreserved at P2 after purification, with ≥0.5 million cells in each vial. HPaMEC are characterized by immunofluorescence with antibodies specific to vWF/Factor VIII, VE-Cadherin and/or CD31 (PECAM) (Figure 1). They are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi. HPaMEC can proliferate in Endothelial Cell Growth Medium (Cat# MD-0010), but they are not recommended for further expansion, because the purity of the endothelial population may decrease.

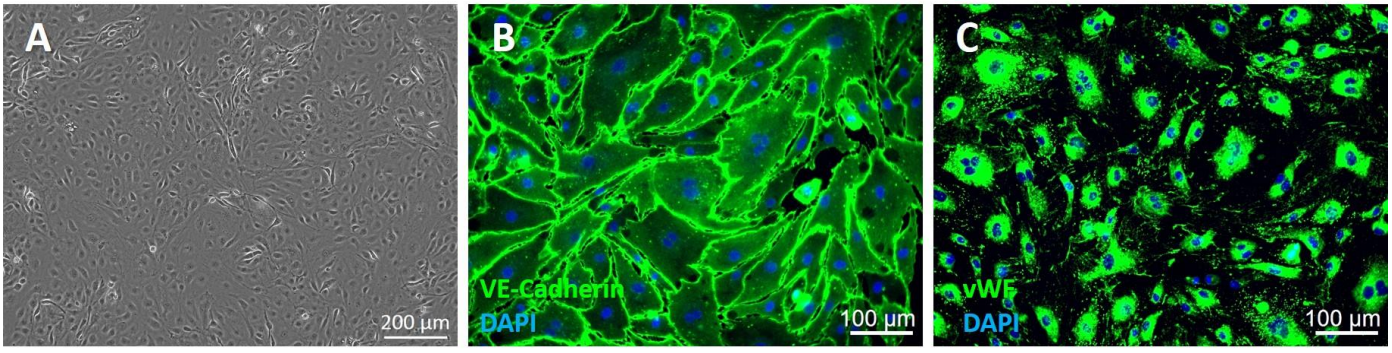

Figure 1. Human Pancreatic Microvascular Endothelial Cells (HPaMEC). **(A)** Phase contrast image of HPaMEC. **(B & C)** Immunofluorescence staining with antibodies against VE-Cadherin **(B)** and vWF/Factor VIII **(C)**.

Product Details

Tissue	Human pancreatic tissue
Package Size	0.5 x 10^6 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 cells, it is recommended to thaw the cells and initiate the culture immediately to retain the highest cell viability.
2. To thaw the cells, put the vial in 37°C water bath with gentle agitation for 1-2 minutes. Keep the cap out of water to minimize the risk of contamination.
3. Pipette the cells into a 15 mL conical tube with 5 mL fresh **Endothelial Cell Growth Medium** (Cat# MD-0010).
4. Centrifuge at 1,000 rpm (~220 g) for 5 minutes at room temperature.
5. Remove the supernatant and resuspend the cells in 12-15 mL fresh culture medium.
6. Culture the cells in a T75 flask. Change the medium every other day until the cells reach 70-80% confluency.

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

Standard Culture Procedure

1. When cells reach ~70-80% confluency, remove the medium, and wash once with PBS.
2. Add 3-5 ml of 0.25% Trypsin-EDTA to the flask and incubate for 5 minutes at 37°C. Neutralize the enzyme by adding 2-3 volumes of **Endothelial Cell Growth Medium** (Cat# MD-0010).
3. Centrifuge 1,000 rpm (~220 g) for 5 minutes. Remove the supernatant carefully, and then resuspend the cells in desired volume of Endothelial Cell Growth Medium (Cat# MD-0010).
4. Seed the cells in the new culture vessels at 5 × 10^3 cells/cm^2. Change the medium every other day until the cells reach 70-80% confluency.

Reference

[1] Zanone M, Favaro E, Camussi G (2008). “From endothelial to beta cells: insights into pancreatic islet microendothelium.” Curr Diabetes Rev. 4(1): 1-9.

[2] Konstantinova I and Lammert E. (2004). “Microvascular development: learning from pancreatic islets.” Bioessays, 26(10):1069-1075.

Disclaimers