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Product Information

Human Brain Vascular Pericytes (HBVP)

Catalog Number	10HU-031	Cell Number	0.5 million cells/vial
Species	*Homo sapiens*	Storage Temperature	Liquid Nitrogen

Description

Pericytes are contractile cells that wrap around the endothelial cells of capillary and venules throughout the body [1]. Pericytes are embedded in basement membrane, where they communicate with endothelial cells by means of direct physical contact and paracrine signaling [2]. In the brain, pericytes help sustain the blood-brain barriers, which regulate capillary blood flow, the clearance and phagocytosis of cellular debris and the permeability of the blood-brain barrier. Pericytes deficiency in the central nervous system can cause the blood-brain barrier breakdown, leading to neurodegenerative diseases.

iXCells Biotechnologies provides high quality Human Brain Vascular Pericytes (HBVP), which are isolated from human brain and cryopreserved at P2, with >0.5 million cells in each vial. These HBVP are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi. They can further expand for no more than 3 passages in Human Pericyte Growth Medium (Cat# MD-0030) under the condition suggested by iXCells Biotechnologies. Additional expansion is not recommended, because the purity of pericyte population may decrease.

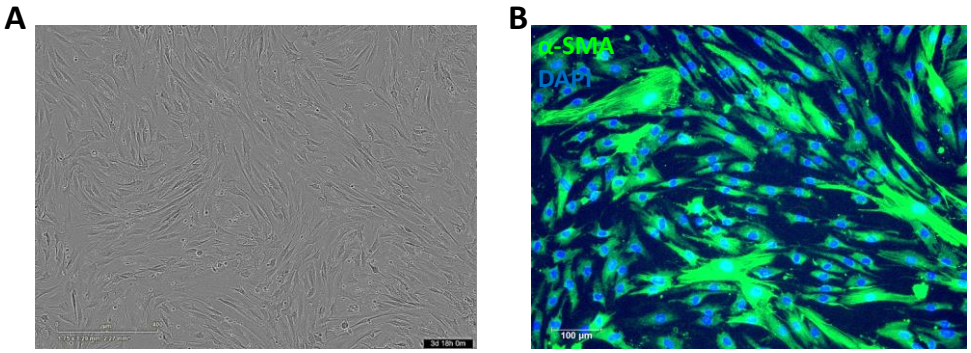

Figure 1. Human Brain Vascular Pericytes (HBVP). **(A)** Phase contrast image of HBVP. **(B)** Immunofluorescence staining with antibody against Anti-alpha smooth muscle Actin (α-SMA).

Product Details

Tissue	Human Brain Vascular Pericytes (HBVP)
Package Size	0.5 million cells/vial
Passage Number	P2
Shipped	Cryopreserved
Storage	Liquid nitrogen
Growth Properties	Adherent
Media	Pericytes Growth Medium (Cat # MD-0030)

Protocols

Thawing of Frozen Cells

1. Upon receipt of the frozen Human Brain Vascular Pericytes (HBVP), 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 1-2 minute. 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 **Pericytes Growth Medium** (Cat # MD-0030).
4. Centrifuge at 1,000 rpm (~220g) for 5 minutes under room temperature.
5. Remove the supernatant and resuspend the cells in fresh culture medium.
6. Culture the cell in 100 mm culture dish or T75 flask. Change the medium every other day until cells reach 80-90% confluence.

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

Standard Culture Procedure

1. Human Brain Vascular Pericytes (HBVP) can be cultured in **Pericytes Growth Medium** (Cat # MD-0030).
2. When cells reach ~80-90% confluence, remove the medium, and wash once with sterile PBS (5 mL/T75 flask).
3. Add ~2.5 mL 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 1,000 rpm (~220 g) for 5 minutes and resuspend the cells in desired volume of medium.
5. Seed new culture vessels at 5 × 10^3 cells/cm^2. Change the medium every other day until cells reach 80-90% confluence.

References

[1] Birbrair etc and Osvaldo. Role fo pericytes in skeletal muscle regeneration and fat accumulation. Stem Cell and Development 2013, 22(16): 2298-2314.

[2] Bergers G and Song S. The role of pericytes in blood-vessel formation and maintenance. Neuro-Oncology 2005, 7(4): 452-464.

Disclaimers