Product Information

Human Retinal Microvascular Pericytes (HRMP)

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>10HU-184</th>
<th>Cell Number</th>
<th>0.5 million cells/vial</th>
</tr>
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<tbody>
<tr>
<td>Species</td>
<td>Homo sapiens</td>
<td>Storage Temperature</td>
<td>Liquid nitrogen</td>
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</table>

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.

Figure 1. (Left) Phase contrast of Human Retinal Microvascular Pericytes (HRMP). (Right) HRMPs are positive for α-SMA (red).

iXCells Biotechnologies provides high quality Human Retinal Microvascular Pericytes (HRMP), which are isolated from human retinal tissue and cryopreserved at P2, with >0.5 million cells in each vial. These HRMP are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi and can further expand for 10 population doublings in Human Pericyte Growth Medium (Cat# MD-0030) under the condition suggested by iXCells Biotechnologies.
**Product Details**

<table>
<thead>
<tr>
<th>Product Details</th>
<th>Value</th>
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<tbody>
<tr>
<td>Tissue</td>
<td>Human retinal tissue</td>
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<tr>
<td>Package Size</td>
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<td>Passage Number</td>
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<tr>
<td>Media</td>
<td>Pericyte Growth Medium (Cat# MD-0030)</td>
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**Protocols**

**Thawing of Frozen Cells**

1. Upon receipt of the frozen Human Retinal Microvascular Pericytes (HRMP), 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 Pericyte Growth Medium (Cat# MD-0030).

4. Centrifuge at 1,000rpm (~220g) for 5 minutes under room temperature.

5. Remove the supernatant and resuspend the cells in Pericyte Growth Medium (Cat# MD-0030).

6. Culture the cells in a T75 flask. Note: culture dishes or flasks should be pre-coated with 0.01% poly-l-lysine or rat collagen 1 >1 hours at 37°C before use.

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

**Standard Culture Procedure**

1. HRMP can be cultured in Pericyte Growth Medium (Cat# MD-0030).

2. When cells reach ~80-90% confluence, remove the medium, and wash once with sterile PBS (5ml/T75 flask).

3. Add ~2.5ml of 0.05% Trypsin-EDTA to the flask and incubate for ~3 minutes at 37°C. Neutralize the enzyme by adding 2-3 volumes of Pericyte Growth Medium.

4. Centrifuge 1,000rpm (~220g) for 5min and resuspend the cells in desired volume of medium.

5. Seed new culture vessels at $5 \times 10^3$ cells/cm². Note: culture dishes or flasks should be pre-coated with 0.01% poly-l-lysine or rat collagen 1 >1 hours at 37°C before use.

**References**


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