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# Product Information

**Mouse Pulmonary Endothelial Cells (MPEC)**

| | | | |
|---|---|---|---|
| Catalog Number | 10MU-041 | Cell Number | 0.5 million cells/vial |
| Species | *Mus Musculus* | Storage Temperature | Liquid nitrogen |

## Product Description

Mouse pulmonary endothelial cells are widely used in vascular biology and lung cell biology studies such as pulmonary inflammation, angiogenesis, vessel permeability, leukocyte/EC interaction, nitric oxide production, and mechanotransduction [1]. Endothelial dysfunction is the common molecular basis of multiple human diseases, such as atherosclerosis, diabetes, hypertension, and acute lung injury. Primary culture of ECs is an important tool to dissect the role of endothelial genes in endothelial dysfunction-associated disorders [2]. Mouse pulmonary endothelial cells has been successfully used in phenotypic, and genetic studies characterizing endothelial genes in human diseases [3].

**iXCells Biotechnologies** provides high quality mouse pulmonary endothelial cells (MPEC), which are isolated from peripheral tissues of pulmonary lobes of C57BL/6 or CD1 mouse lung. MPECs are cryopreserved at passage 2 and delivered frozen. Each vial contains >0.5million cells. MPEC are characterized by immunofluorescence with antibody specific to Tie-2. MPECs are negative for mycoplasma, bacteria, yeast, and fungi. MPECs are guaranteed to further expand no more than 2 additional passages in Endothelial Cell Growth Medium (Cat# MD-0010-500ML) under the condition suggested by iXCells Biotechnologies.

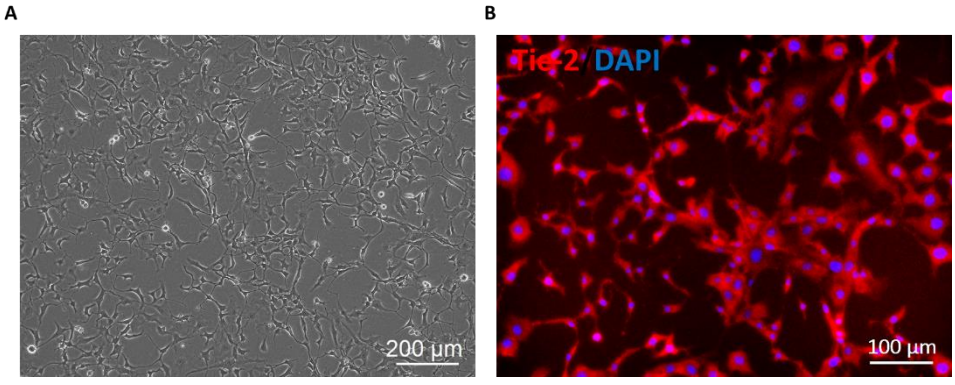


**Figure 1. Mouse pulmonary endothelial cells (MPEC).** (A) Phase contrast image of MPEC. (B) Immunofluorescence staining with antibody against Tie-2.

## Product Details

| | |
|---|---|
| **Tissue** | Mouse peripheral tissues of pulmonary lobes |
| **Package Size** | 0.5 million cells |
| **Passage Number** | P2 |
| **Shipped** | Cryopreserved |
| **Storage** | Liquid nitrogen |
| **Growth Properties** | Adherent |
| **Media** | Endothelial Cell Growth Medium (Cat# MD-0010-500ML) |

## Protocols

### Thawing of Frozen Cells

1. Upon receipt of the frozen Mouse Pulmonary Endothelial Cells (MPEC), 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 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-0010-500ML).
4. Centrifuge at 1,000 rpm (~220 g) for 5 minutes under room temperature.
5. Remove the supernatant and resuspend the cells in Endothelial Cell Growth Medium.
6. Culture the cell in the 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. Mouse Pulmonary Endothelial Cells (MPEC) 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 for one T75 flask).
3. Add 3 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 cell culture medium.
4. Centrifuge 1,000 rpm (~220 g) for 5 minutes and resuspend the cells in desired volume of medium.
5. Seed the cells in the new culture vessels at $5 \times 10^3$ cells/$cm^2$. Change the medium every other day until cells reach 80-90% confluence.

## References


[1] Peramaiyan Rajendran, Thamaraiselvan Rengarajan, Jayakumar Thangavel, Yutaka Nishigaki, Dhanapal Sakthisekaran, Gautam Sethi, Ikuo Nishigaki. (2013) “The vascular endothelium and human diseases.” Int J Biol Sci. 9(10): 1057-69.
[2] Hadi AR Hadi, Cornelia S Carr, and Jassim Al Suwaidi. (2005) “Endothelial Dysfunction: Cardiovascular Risk Factors, Therapy, and Outcome”. Vasc Health Risk Manag. 1(3): 183-198.
[3] Monica J. Justice, Paraminder Dhillon. (2016) “Using the mouse to model human disease: increasing validity and reproducibility”. Disease Models & Mechanisms. Editorial.

## Disclaimers

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