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Product Information

Mouse Pulmonary Fibroblasts (MPF)

Catalog Number	10MU-026	Cell Number	0.5 millon cells/vial
Species	*Mus Musculus*	Storage Temperature	Liquid nitrogen

Product Description

The most abundant cell type in the lung interstitium is the fibroblast. These fibroblasts resemble ordinary fibroblasts, but also possess some distinguishing features, such as long, branching processes and gap junctions. Pulmonary fibroblasts function to produce type III collagen, elastin, and proteoglycans of the extracellular matrix of the alveolar septa. They play an important role in the repair and remodeling processes following tissue damage. The controlled accumulation of fibroblasts to sites of inflammation is crucial to effective tissue repair after injury [1]. An inadequate or an excessive accumulation of fibroblasts can result in abnormal tissue function. For example, excess proliferation of fibroblasts contributes to adventitial thickening observed during the development of hypoxia-induced pulmonary hypertension [2].

Mouse Pulmonary Fibroblasts (MPF) from **iXCells Biotechnologies** are isolated from 2 weeks old C57BL/6 mouse lung. MPF are cryopreserved at passage 1 and delivered frozen. Each vial contains >5 x 10^5 cells in 1 ml volume. MPF are characterized by immunofluorescence with antibody specific to fibronectin. MPF are negative for mycoplasma, bacteria, yeast, and fungi. HPF are guaranteed to further expand for 5 population doublings in Fibroblast Growth Medium (Cat# MD-0011).

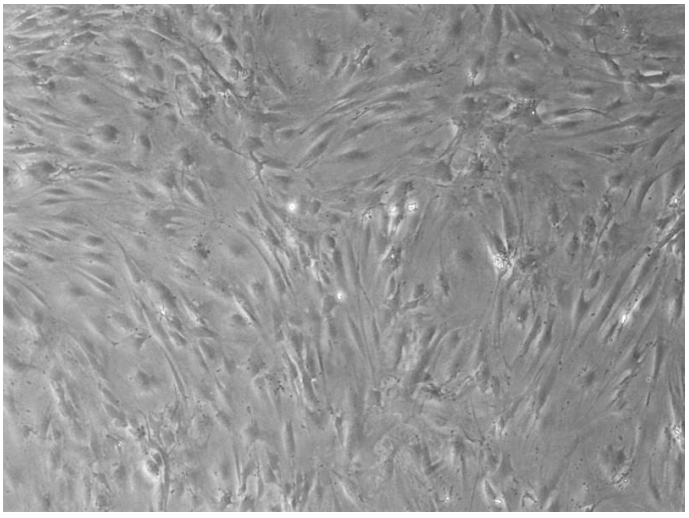

Figure 1. Phase contrast image of primary Mouse Pulmonary Fibroblasts (MPF).

Product Details

Tissue	Mouse Lung
Package Size	0.5 million cells
Passage Number	P1
Shipped	Frozen
Storage	Liquid nitrogen
Growth Properties	Adherent
Media	Fibroblast Growth Medium (Cat# MD-0011)

Protocols

Thawing of Frozen Cells

1. Upon receipt of the frozen Mouse Pulmonary Fibroblasts (MPF), 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 ~5ml fresh Fibroblast Growth Medium (Cat# MD-0011).
4. Centrifuge at 1,000 rpm (~220 g) for 5 minutes under room temperature.
5. Remove the supernatant and resuspend the cells in Fibroblast 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 Fibroblasts (MPF) can be cultured in Fibroblast Growth Medium (Cat# MD-0011).
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 5×10^3 cells/cm^2. Change the medium every other day until cells reach 80-90% confluence.

References

[1] Kuwano K, Hagimoto N, Hara N. (2001) “Molecular mechanisms of pulmonary fibrosis and current treatment.” Curr Mol Med. 1: 551-73.

[2] Das M, Dempsey EC, Reeves JT, Stenmark KR. (2002) “Selective expansion of fibroblast subpopulations from pulmonary artery adventitia in response to hypoxia.” Am J Physiol Lung Cell Mol Physiol. 282: L976-86.

Disclaimers

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