

HUMAN LUNG FIBROBLAST CELLS

Catalog Number: hLFC-hm

Product description:

Lung fibroblast cells are the most abundant cell types found in lung interstitium. They play a vital role in airway remodelling and airway inflammation. They are similar to other fibroblasts but have some distinguishing features like gap junction and long branching processes. In pharmaceuticals development, these cells serve as a best target for asthma medicines. Their important function is to produce collagen type III, elastin, and proteoglycans of the extracellular matrix of the alveolar septa. These cells aid in studying process of repair, remodelling of the injured site of the lungs. Channelled and well controlled accumulation of these fibroblast cell to the site of injury is effective tissue repairing process. It is crucial process as excess proliferation of fibroblast may lead to adventitial thickening observed during development of hypoxia-induced pulmonary hypertension.

Characterization: Immunofluorescence with antibodies specific to FSP, vimentin and collagen.

Fibroblast-specific protein (FSP) is a member of the calmodulin S100 troponin C superfamily which is used for identifying lung fibroblast cells. Fibroblast-specific protein is also called S100A4 is considered as a fibroblasts marker in different organs undergoing tissue remodelling and is also used to identify fibroblast cells derived from epithelial-mesenchymal transition (EMT) in several organs.

Vimentin is one of the fibroblast intermediate filaments which is the major type of intermediate filaments found in fibroblast cells. It is type III intermediate filament protein which is composed of a single subunit having a molecular weight of approximately 57 kD. Vimentin is cytoskeletal component that is responsible for maintaining integrity of the cell. Key role of vimentin is to stabilize cytoskeleton interactions, maintain cellular integrity and provide resistance to avoid cell damage.

Collagens are expressed in response to growth factors and mechanical stimuli produced by fibroblast cells. Studies reported that 5000 molecules of pro collagen are produced per minute. Among which 80% of the collagen in human body is made of collagen type I, II and III. Fibroblasts produce collagen matrix that is the important structural component of connective tissues. Fibroblast cells consist of cell surface receptors called integrins, which particularly attach to proteins in the matrix.

Specifications:

Tissue	Human lung tissue
Cell type	Lung fibroblast cells
Description	Human lung fibroblast cells
Alternative names	HLF
Application	Good model to study pulmonary diseases like COPD, asthma, CF, TB, cancer.
Product use	This product is for research use only.
Storage	Cryopreserved vials: store in liquid nitrogen immediately after receiving.
Shipping	Dry ice
QC	Tested negative for bacteria, fungi, yeast. Tested negative for mycoplasma, endotoxin. Tested negative for Hepatitis A, B, C and HIV 1 and 2 viruses.

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