

HUMAN MAMMARY FIBROBLAST CELLS

Catalog Number: hMFC-hm

Product description:

Mammary fibroblast cells are mesenchymal cells that are isolated from human breast. These cells synthesize components of the stromal extracellular matrix of the mammary gland. Stromal extracellular matrix ECM aids in regulating the proliferation and differentiation of mammary epithelial cells through increasing their gene expression. Some studies have shown that mammary fibroblasts play a vital role in immune system of the body by recruiting macrophages for immune surveillance and which, in concert with ECM turnover and angiogenesis, is associated with a supportive mammary microenvironment for tumor cell progression. These results suggest that mammary fibroblast cells play an important functional role in breast cancer development and invasion.

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 mammary gland
Cell type	Mammary fibroblast cells
Description	Human mammary fibroblast cells
Alternative names	HMF
Application	Good model to study breast cancer and ECM synthesis.
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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