REGIONAL CENTRE FOR BIOTECHNOLOGY

Seminar series

Epithelial-specific TGF-β signaling of the lung: Evidence for an epithelial role in Pulmonary Fibrosis

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Friday, 17th, August, 2011
11:00 AM
Seminar Room

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Abstract

Idiopathic pulmonary fibrosis (IPF) is a progressive disorder characterized by extracellular matrix (ECM) deposition and remodeling by a-smooth muscle actin (SMA)-expressing myofibroblasts. Epithelial injury is thought to be central to disease pathogenesis with release of mediators triggering fibroblast activation/proliferation. In addition, injured epithelial cells may directly contribute to fibroblast accumulation by undergoing epithelial-mesenchymal transition (EMT). TGF-β and its signaling pathway has evolved as key mediator of both EMT and fibrosis. In this seminar, we will delineate how TGF-β contributes to EMT, and how depletion of TGF-β signaling confers resistance to bleomycin-induced pulmonary fibrosis in an in vivo mouse model thus emphasizing a potential therapeutic option. We would also discuss how epithelial cells respond to various extracellular matrices and the signaling pathways involved therin.