



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY
Division of Life Science

Seminar Notice

“Regulation of Rac small GTPase activation by P-Rex1 in inflammation, fibrosis and tumor metastasis”

by

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Abstract

The Rho family small GTPases are regulated by a large number (~70) guanine nucleotide exchange factors (GEFs) that are found in a variety of tissues. P-Rex1 is one of the Rac GEFs that are subject to regulation by PtdIns3,4,5P₃ and the beta/gamma subunits of heterotrimeric G proteins. We investigated the pathophysiological functions of P-Rex1 in gene knockout mice and knock-down cell lines, and identified P-Rex1 as a key molecule in signaling pathways downstream of TGF-beta1 as well as G protein-coupled receptors. P-Rex1 KO mice display significantly reduced inflammatory response in acute lung injury and bleomycin-induced fibrosis models. P-Rex1 also plays an important role in TGF-beta1 signaling in lung fibroblasts. Using computer simulation and docking, we examined the interaction between P-Rex1 and Rac in an effort to identify small molecules that may block Rac activation downstream of P-Rex1. The potential application of these approaches will be discussed.

Date : 27 October 2017 (Friday)

Time : 4:00 p.m.

Venue : Lecture Theatre C

The Hong Kong University of Science & Technology
Clear Water Bay, Kowloon

(Host faculty: Prof. Y.H. Wong)

ALL ARE WELCOME!!