

大学院教育改革支援プログラム「ボーダレス教育」

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記

演題 : Fibroblast growth factor signaling pathways in lung development and cancer

演者 : Prof. David Ornitz

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場所 : 7号館(歯学部校舎棟) 1F 第1講義室

Lung mesenchyme is a critical determinant of the shape and size of the lung, the extent and patterning of epithelial branching, the formation of the pulmonary vasculature and the formation of mesenchymal components of the adult lung. During development, Fibroblast Growth Factor 9 (FGF9) regulates lung mesenchyme development. Investigation of the underlying signaling mechanisms identified interactions between FGF signaling and β -catenin-dependent Wnt signaling. This talk will address mechanisms that regulate this mesenchymal feed-forward signaling network and how mesenchymal signaling in the lung interacts with and regulates epithelial development.

Molecular signaling pathways that are used during development are often reactivated or re-expressed during the initiation or progression of cancer. *Fgf9* is expressed in a large percentage of human non-small cell lung cancers. In addition to signaling to mesenchymal FGF receptors, FGF9 also has a unique ability to signal to some epithelial FGF receptors. In this talk I will discuss a mouse model in which induced expression of FGF9 leads to the rapid expansion of cells that express markers characteristic of a bronchioalveolar stem cell, a putative stem cell located at the bronchioalveolar duct junction. Sustained expression of FGF9 results in the development of adenocarcinoma and bronchioalveolar carcinoma (BAC), a subtype of NSCLC.

連絡先 : 大学院医歯学総合研究科・分子発生学分野

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