

Curing diabetes one fish at a time: the long road of translational research

Prof. Didier Stainier
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10月25日(火) 16:30 – 18:30

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Lecture Summary:

Our work is concerned with the formation, function and homeostasis of organs during vertebrate development. We are interested in understanding the cellular and molecular events that underlie cellular differentiation, tissue morphogenesis and organ function during the formation of the cardiovascular system (the heart and the blood vessels) as well as the liver and pancreas. One approach consists of screening for mutations that affect these processes in zebrafish, a vertebrate model system that allows forward genetics as well as embryological studies. We also utilize the tools of chemical genetics to identify pathways that regulate these processes, taking advantage of the high-throughput methods available in zebrafish.

This talk will focus on pancreas development and glucose homeostasis. Specifically, it will address our attempts to increase beta-cell mass via mobilization of stem cells and cell reprogramming. It will also cover the results of our ongoing screens for small molecules designed to 1) enhance beta-cell regeneration, 2) lower gluconeogenesis and 3) enhance beta-cell proliferation. Altogether, these studies aim to provide new therapeutic avenues to treat diabetes.

Lecture Objectives:

1. Introduction to the zebrafish as a vertebrate model system ideal to study organ formation and function.
2. Exposure to key issues in pancreatic development as it relates to increasing beta-cell mass, and cell reprogramming.
3. Exposure to key issues in small molecule screens in zebrafish as they relate to restoring glucose homeostasis.

履修届: Web上(学務システム)から履修登録してください。

成績評価: 出席と2つのコースに対するレポートにより判定します。

レポート課題: 講演の要点と感想をA4レポート一枚にまとめる。提出期限: 11月8日(火)

提出先: 題名「新国際基盤生命学特論4(講師名)」としてメールで下記宛先へ。

gCOE講義係 <gcoe_lec@biol.s.u-tokyo.ac.jp> (3日以内に返信がなければ再度確認のこと。)

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