Developmental and Regenerative Biology

1. Staffs and Students (April, 2010)
   Professor Hiroshi NISHINA
   Associate Professor Jun HIRAYAMA, Yoichi ASAOKA
   Project Assistant Professor Tokiwa YAMASAKI
   Graduate Students Tadashi YOKOI, Eiichiro NODA,
   Tadanori SHIMOMURA

2. Purpose of Education
   Our goal is to define the molecular basis for the mechanism of organ formation and regeneration using knockout mice and mutant fishes. To accomplish this goal, we have focused on defining signaling molecules and pathways that regulate liver formation and stress responses. Moreover, we are trying to establish a cell therapy for intractable diseases such as liver failures using self-bone marrow cells. Our study will provide new insights into understanding the precise molecular mechanisms that underlie organ failures found in human disease and will lead to the development of new rational therapy for the diseases.

3. Research Subjects
   1) Studies on the stress-activated protein kinase (SAPK/JNK) signaling pathway
   2) Studies on the Hippo signaling pathway
   3) Studies on the cell differentiation of mouse ES cells
   4) Studies on liver formation using a small fish, Medaka, Oryzias Latipes
   5) Studies on liver regeneration using mice
   6) Studies on circadian clock using zebrafish and mice

4. Publications
   Original Article
Regulator of Heart Function. *Cell* 141, 142-153. Cover of the issue


Review Articles

