幹細胞の機能解析を通じて器官の
発生・再生・疾患のメカニズムを解明する

Research Projects
Organic to the digestive system, for example, the liver and intestines are derived from a common gut endoderm. These endoderm-derived organs, however, have their own mechanisms controlling development, regeneration, and homeostasis. Although the liver has a potential to regenerate a lost portion, there is little contribution of hepatic stem cells in regeneration. On the other hand, the intestine and esophagus need stem cells, because epithelial cells in these organs should turn into new cells for maintenance of tissue homeostasis in our study, we are seeking to uncover mechanisms underlying liver regeneration and to clarify an uncertain stem cell system in the liver. Also, by focusing stem cells in the intestine and esophagus, we are investigating molecular mechanisms regulating self-renewal and differentiation of stem cells and the relationship between stem cell abnormalities and cancer initiation. We believe that our study provides new insight into therapies for diseases in organs of the digestive system.

Major Recent Publications:

マウスの高度肝細胞癌を発生させることに成功
（下の写真は発表されたマウスの高頻度肝細胞癌を発生させた肝細胞）