Cell Identity Conversion in Regeneration and Tumorigenesis

Prof. HUI Lijian, Ph.D.

研究分野 /Field: 肝臓病の分子病理学 /Molecular pathology of liver diseases

研究テーマ /Research topics

- 肝障害・再生と癌化過程
  - Liver disease, regeneration and tumorigenesis
- 細胞識別と転換及び転分化（ダイレクトリプログラミング）
  - Cell identity, conversion and transdifferentiation (direct-reprogramming)
- HCC 発生機構と制御
  - Mechanism of HCC origination and therapies
- 重度免疫不全 FRG ラットの開発
  - Development of a severe immunodeficient Fah−/− rat (FRG) model

講演内容 /Summary

Ectopic forced activation of lineage specific transcription factors has been well demonstrated to trigger cell identity conversion in vitro. Recent studies have shown that, under pathological injury conditions, cell identity conversion is important for tissue regeneration. Liver is an organ with remarkable regeneration capability after injury. Using hepatocyte lineage tracing, it was demonstrated that hepatocytes are identified by reprogramming into progenitor-like cells and contribute to liver regeneration. However, the underlying mechanisms are largely unclear. Here we analyzed how hepatic cell identity conversion was orchestrated in liver regeneration and tumorigenesis.

参考文献/References

1. Liver cancer initiation is controlled by AP-1 through SIRT1-dependent inhibition of survivin. Nat Cell Biol 2012