幹細胞生物学（佐田　亜衣子）
Stem Cell Biology (SADA Aiko)

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幹細胞の不思議を探る：臓器再生と老化のメカニズム

幹細胞は、臓器再生に重要な役割を果たすとともに、近年では、老化やがんとの関連性も強く示唆されています。私たちは、そんな不思議な幹細胞の実態を探るべく、マウス皮膚、眼、口腔の３つの組織をモデルに研究を行っています。幹細胞の特性や制御機構の解明は、再生医療への応用や、老化やがんの予防・治療へとつながることが期待されます。
遺伝子改変マウスを用いたアプローチを得意とし、オミクス解析や糖鎖工学、バイオエンジニアリングといった異分野融合にも積極的に取り組んでおります。幹細胞や老化、再生医療、皮膚科学、発生工学に興味のある人、何か新しいことを発見したい人、ぜひ一緒に研究しましょう。

Stem Cells in Tissue Regeneration and Aging

Stem cells have a remarkable ability to regenerate various adult tissues. Our research focuses on elucidating the cellular dynamics and regulatory mechanisms of stem cells, especially using mouse epithelial tissues (skin, eyes and oral) as a model. We identified novel stem cell populations in the mouse skin and established new genetic tools and molecular markers to analyze these cells in vivo (Sada et al., Nat Cell Biol 2016). We are currently studying stem cells in tissue regeneration and aging, by combining cell & molecular biology techniques, genetic-engineering of mice, omics analysis, bioengineering, glycobiology and so on.
Our research goal is to reveal the drivers and effectors of stem cell dysfunction. Targeting these factors may prevent or cure diseases at the stem cell level, with implications for applications in regenerative therapy, and for future treatments of cancer, aging and other disorders.