“Unveil cells at the molecular level and bring the findings to clinical application”

Cells dynamically change their shape depending on developmental stages and/or their functional activities. The morphological changes of cells are driven mainly by cytoskeletal dynamics and intracellular membrane traffic. We study mechanisms of cellular morphogenesis, and their roles in physiological and pathological contexts. Screening of novel inhibitors targeting the cellular morphogenesis are also being carried out.

Research Topics

1. Structural dynamics of functional molecules

2. Mechanisms of cell differentiation (neurons and muscles)

3. Cancer invasion and anti-invasion drug screening

4. Mechanism of malarial infection and anti-malarial drug screening

Techniques

Cell Biology (cell culture, transfection, RNA interference)
Imaging (live imaging, confocal microscopy, electron microscopy)
Molecular biology (PCR, DNA cloning, site directed mutagenesis)
Biochemistry (protein purification, Western blot, ELISA, in vitro reconstitution)

Publications

Takeda et al., eLife 2018 (in press)
Takeda et al., Open Biol. 7 130081, 2013
Yamada et al., J. Biol. Chem. 284:34244-34256, 2009

Contact information

Kohji Takei, DDS, PhD
kohji@md.okayama-u.ac.jp
Tel: +81-86-235-7125

http://www.okayama-u.ac.jp/user/med/biochem/index.html