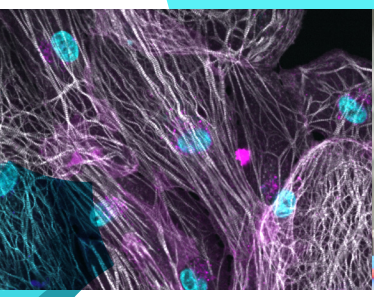
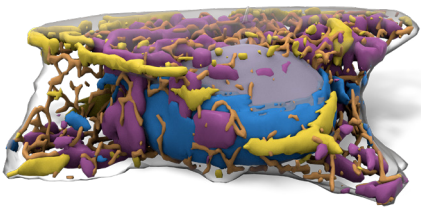
ALLEN INSTITUTE *for*
CELL SCIENCE

OPEN SCIENCE BIG IMPACT



The Allen Institute for Cell Science is dedicated to understanding and predicting the behavior of cells.



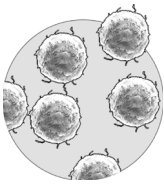
WHAT WE DO

- We generate high quality, live image data on cellular organization and behavior using gene-edited cell lines.
- We create computational models of how cells perform their roles.
- We aim to improve our understanding of human cells in health – and ultimately in disease.

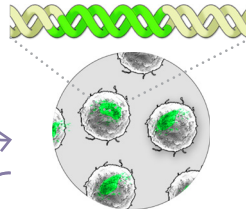
HOW WE DO IT

- We generate fluorescently tagged human iPSC lines for key proteins representing important cellular processes.
- We provide rigorous quality control before making our engineered lines available to the community.
- We generate dynamic high-resolution 3D images of live cells and develop predictive models and analysis tools.
- Our images, models, data and cell line information are available online at **allencell.org**.

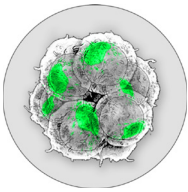
Our process



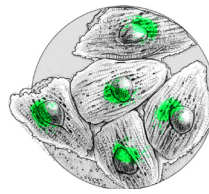
iPSCs
Start with an established human induced pluripotent stem cell (hiPSC) line



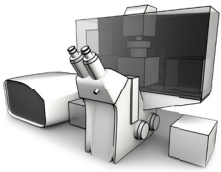
Gene editing
Introduce a fluorescent protein (FP) at endogenous genomic locus of the gene of interest



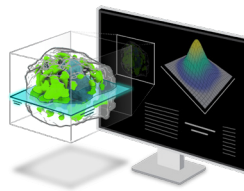
Clonal line generation
Create a stable cell line expressing the FP with rigorous QC



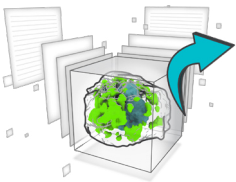
Differentiating
Differentiate the edited line into cardiomyocytes



Live cell imaging
Image both the undifferentiated and the differentiated cells



Modeling & analysis
Analyze quantitative image-based data to build models of cell organization and behavior



Visualization & interface
Integrate data and models to visualize cells and share our resources with the community

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