

# Cellular Imaging

Research Administration  
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Fred Hutch's Shared Resources are catalysts for lifesaving discoveries. This uniquely centralized program of 15 specialized core facilities and scientific services drives advances by integrating dedicated experts and cutting-edge technologies across the entire research pipeline, from basic science to clinical trial.

## IncuCyte S3 and SX5

Automated widefield imaging inside an incubator

### Excitation sources

- Brightfield/phase
- G/R or G/O/NIR fluorescence

### Objectives

- 4x/0.2
- 10x/0.3
- 20x/0.45

### Cameras

- Basler Ace 1920-155um — CMOS

### Capabilities

- Phase contrast, fluorescence: green/red (S3 and SX5) or green/orange/near infrared (SX5 only)
- Time lapse of live cell culture: adherent cells, non-adherent cells, spheroids, and organoids

### Recommended uses

- Monitoring cell proliferation
- Monitoring reporter gene expression
- Cell death assays—immune killing, apoptosis
- Migration assays—scratch wound, trans-well
- Spheroid and organoid assays

### General information

An IncuCyte is a microscope system for automated imaging of cells as they grow within a standard mammalian cell incubator. The system can acquire images in phase contrast as well as up to two (S3) or three (SX5) fluorescent channels, which can be scheduled for a single time point or at regular intervals over hours, days, or weeks. Samples can be plated in a variety of vessels including standard plastic bottom multi-well plates (flat or round bottoms), flasks, and round tissue culture dishes. Each IncuCyte can hold up to six multi-well plates, which can be set up for multiple independent experiments in parallel. Each plate is imaged in turn when its timepoint arrives. Software modules are available for specific experimental workflows (see IncuCyte module table below). Acquired images can be viewed, analyzed, and/or exported using the IncuCyte software to remotely connect from anywhere on the campus network.

### LEARN MORE

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IncuCyte Modules	Seahawks S3	Mariners S3	Kraken SX5	Huskies SX5
Standard/Whole Well/Cell-by-cell	X	X	X	X
Scratch-wound assays	X	X	X	
Chemotaxis migration assays	X	X	X	
Angiogenesis - Tube Formation	X	X	X	
NeuroTrack - Neurite Outgrowth		X	X	
Spheroid imaging		X	X	
Organoid imaging			X	