Live-Cell Analysis Inside Your Incubator

IncuCyte® S3 Live-Cell Analysis System
Live-cell analysis inside your incubator

No need to disturb your cells by bringing them to the instrument, we bring the instrument to the cells. No more struggling with "environmental control systems" - analyze your cells for days, weeks, or even months as they sit stationary in the stable environment of your tissue culture incubator. The IncuCyte® provides accessible, information-rich analysis whether you simply want to improve experimental outcomes with enhanced culture quality control, or study complex cell-cell interactions such as immune cell killing.

Start with viable, living cells
With IncuCyte S3 live-cell analysis, cells are measured in situ in a physiologically relevant environment. Plus, IncuCyte reagents are non-perturbing to cell health and morphology, further reducing potential artifacts in your experiments.

Acquire images for information-rich analysis
Image-based measurements provide spatial and morphological information that not only expands the types of questions you can ask, but also allows for easy validation of experimental data.

And then add insights derived from time-lapse analysis and investigation of experimental variables
Don’t limit your data to a single snapshot in time. Continuous analysis ensures you don’t miss a relevant response or interaction. Plus, 96-well and 384-well assay formats enable rapid optimization of experimental variables and treatment conditions.

Introducing the IncuCyte S3 Live-Cell Analysis System
The IncuCyte S3 is a flexible assay platform that gives you power to enable real-time, automated measurements of cell health, movement and function - inside your incubator.

Ask new questions
- Devise new experiments not previously possible.
- Conduct routine monitoring and get answers to unique scientific questions with kinetic, image-based measurements.

Get new answers
- Never miss a data point with real-time continuous analysis.
- Profile cell-specific and time-dependent biological activity.
- Visualize and validate results with images and movies.

Protect your cells
- Perform analysis without removing cells from the incubator or disturbing cultures.
- Maintain cell health and morphology with non-perturbing reagent formulations.

Improve productivity
- Enjoy walk-away convenience as images are automatically acquired and analyzed.
- Multiplex measurements in 96- and 384-well assay formats.
- Accommodate multiple users and applications simultaneously.
Simple and flexible experimental set up
- Interface guides users through set up of automated acquisition and analysis parameters.
- Multiple users can schedule experiments using different acquisition frequencies and magnifications.

Remote, networked access
- Control the IncuCyte from any networked location using unlimited, free licenses for your lab or facility.

Compatible with a wide range of culture vessels and applications
- Monitor flasks or dishes to ensure cell health before your experiment with label-free confluence analysis.
- Conduct a wide variety of assays in 96- and 384-well microplates, up to six at a time simultaneously.

Maximize efficiency with IncuCyte reagents
- Maintain cell health and morphology with non-perturbing reagent formulations.
- Reduce time spent optimizing and troubleshooting with validated, live-cell reagents and established protocols.

Set up and walk away

Simple and flexible experimental set up
- Interface guides users through set up of automated acquisition and analysis parameters.
- Multiple users can schedule experiments using different acquisition frequencies and magnifications.

Remote, networked access
- Control the IncuCyte from any networked location using unlimited, free licenses for your lab or facility.

Acquire and view images over time

Multiple imaging modes
- Capture high-quality HD phase plus red and green fluorescent images and movies.
- Address a variety of applications in parallel using 4x, 10x or 20x objectives on an automated turret.

Minimize disturbance of cells
- Unique mobile optical design means cells stay stationary while optics move – perfect for sensitive and non-adherent cell types.
- Non-invasive and non-perturbing image acquisition captures the full, long-term timecourse of the biology as it unfolds.

Automatically acquire images over time.
- Use IncuCyte VesselView to review images of all locations in the vessel at once and quickly point experimental results, plus score in re-images of interest.

View all 96- or 384-well kinetic trends at once with IncuCyte® PlateGraph and export data to calculate EC50 or IC50 response values.

Automatically identify regions of interest via masks.

Generate presentation-ready timelapse graphs.

View all 96- or 384-well kinetic trends at once with IncuCyte® PlateGraph and export data to calculate EC50 or IC50 response values.

Guided interface enables rapid experimental set up and walk away.

Automatically acquire images over time.

Automatically identify regions of interest via masks.

Generate presentation-ready timelapse graphs.

View all 96- or 384-well kinetic trends at once with IncuCyte® PlateGraph and export data to calculate EC50 or IC50 response values.
Cell Monitoring & Other Workflows

Stem Cell Monitoring and Reprogramming
Monitor stem cell reprogramming and differentiation events without removing cells from the incubator.

Cell Culture QC
Monitor cell morphology and proliferation, label-free and without removing cells from the incubator.

Migration & Invasion
Scratch Wound Migration and Invasion
Investigate treatment effects on cell migration across a 2D substrate or invasion through a 3D gel matrix.

Cell Health
Cell Culture QC
Monitor cell morphology and proliferation, label-free and without removing cells from the incubator.

Proliferation
Automatically measure label-free growth or count living cells with NucleiLight™ nuclear labeling in real time.

Apoptosis
Detect apoptosis in living cells and in real time using simple mix-and-read protocols.

Immune Cell Clustering
Visualize and quantify expansion and clustering without removing your cultures from the incubator.

Phagocytosis
Continuously analyze and generate movies of phagocytes engulfing pHrodo® labeled bioparticles or target cells.

Migration & Invasion

Live-Cell Analysis System Applications

Reporter Genes
Measure activity of any promoter driven recombinant GFP/RFP reporter gene expression in real time.

Neurite Analysis
Measure neurite dynamics automatically and in real time in neuronal monolayers and co-cultures with astrocytes.

Tumor Spheroids
Track and quantify tumor spheroid formation, growth and health in real time.

Angiogenesis
Kinetically measure vascular tube formation using our complete co-culture assay kit.

Neutrophil Aggregation
Analyse time-lapse images of neutrophil aggregation.

Angiogenesis

Notable Publications

Oncology and Immuno-Oncology

Drug-tolerant persisters (DTPs) are overcome by disruption of epigenetic state as revealed by researchers at Genentech, including Dr. Jeff Settleman, in collaboration with Epinomics and Active Motif. Quek GB et al. “Repurposing of Stress-Induced LEE-1 Expression protects cancer cell subpopulations from lethal drug exposures”, Cancer Cell 2017 Aug; 31(2):221-237.

A team of researchers at MD Anderson, led by Dr. Ming-Chie Hung and including Dr. James Allison, study the kinetics of PD-1 binding to live cells and also monitor T-cell mediated tumor cell killing. Li CR et al. “Dysregulation and stabilization of programmed death ligand-1 suppresses T-cell activity”, Nat Commun. 2016 Aug; 7:12632-12643.


From incubation to publication – IncuCyte is enabling science

With 1,300 publications and counting, IncuCyte is not only acquiring and analyzing data for researchers like you to get answers faster – our technology is generating presentation-ready images and graphs that help get discoveries published.

Immunology

Dr. Douglas R. Green from the Department of Immunology at St. Jude’s Research Hospital in collaboration with researchers from the Karolinska Institutet and the University Hospital of Cologne, reveal that ESCRT-III helps preserve the plasma membrane in immune cells undergoing necroptosis, contributing to cell survival. Gong YN et al. “ESCRT-III acts downstream of MLKL to regulate necroptotic cell death and its consequences”, Cell 2017 Apr 6; 169(2):286-300.

Dr. Andrew Osterst and colleagues at University of Washington collaborate with Dr. Stephen Tai at the Cancer Research UK Beatson Institute use the IncuCyte to investigate cell death kinetics in TRP-1 monocytes. Gutierrez KD et al. “MLKL activation triggers NLRP3-mediated processing and release of IL-1 independently of galectin-3”, J Immunol. 2017 Jan 1; 198(1):33.

Drug Discovery


Quantitative chemotaxis assays for lead optimization screening across multiple drug discovery platforms developed by Dr. Jing Chen and colleagues at Bristol-Myers Squibb.

Search and view over 1,300 publications at essencbioscience.com/publications

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To view a complete listing of our reagents to fit your application needs, visit: www.essenbioscience.com/reagents
## Ordering information

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Cat. No.</th>
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<tbody>
<tr>
<td><strong>IncuCyte® Live-Cell Analysis System and Accessories</strong></td>
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<tr>
<td>IncuCyte® S3 Live-Cell Analysis System</td>
<td>Includes image acquisition and analysis system with:</td>
<td>4647</td>
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<tr>
<td></td>
<td>• 4x, 10x, and 20x objectives</td>
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<tr>
<td></td>
<td>• Controller with 16.4 TB storage</td>
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<tr>
<td></td>
<td>• Unlimited software licenses for standard acquisition and basic analyzer</td>
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<td></td>
<td>(additional modules are required for certain applications)</td>
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<tr>
<td></td>
<td>• One year manufacturer’s software and service warranty</td>
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<td>• Onsite installation and training</td>
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<tr>
<td>IncuCyte® S3 Live-Cell Analysis System with additional year of warranty</td>
<td>Same as 4647 plus additional year of warranty (two year total warranty)</td>
<td>4695</td>
</tr>
<tr>
<td>IncuCyte® S3 Live-Cell Analysis System with two additional years of warranty</td>
<td>Same as 4647 two additional years of warranty (three year total warranty)</td>
<td>4696</td>
</tr>
<tr>
<td>IncuStore® S Storage Unit</td>
<td>Additional 32.7 TB storage for IncuCyte S3</td>
<td>4689</td>
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Make data driven decisions with purpose built acquisition and analysis algorithms for a wide range of phenotypic live-cell assays.

### IncuCyte® Software Modules

<table>
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<tr>
<th>IncuCyte® S3 Spheroid Software Module</th>
<th>Quantify spheroid growth and health over time</th>
<th>9600-0019</th>
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<tbody>
<tr>
<td>IncuCyte® Cell Migration Software Module</td>
<td>Quantify cell movement into cell-free zones (for use with Woundmaker and ImageLock plates)</td>
<td>9600-0012</td>
</tr>
<tr>
<td>IncuCyte® Chemotaxis Software Module</td>
<td>Quantify the dynamics of chemotactic migration (for use with ClearView™ Chemotaxis plates)</td>
<td>9600-0015</td>
</tr>
<tr>
<td>IncuCyte® NeuroTrack Software Module</td>
<td>Quantify the dynamics of neurite outgrowth</td>
<td>9600-0010</td>
</tr>
<tr>
<td>IncuCyte® Angiogenesis Software Module</td>
<td>Quantify the dynamics of tube formation during angiogenesis</td>
<td>9600-0011</td>
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Harness the power of live-cell analysis with a full range of IncuCyte reagents and consumables to revolutionize the way you quantify cell behavior. To view a complete listing of our reagents and consumables visit: [essenbioscience.com/reagents](http://essenbioscience.com/reagents)

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To place an order or request additional information

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Europe: +44 (0) 1707-358688

For Japan, Australia and other countries around the world: +81-3-5826-4795

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