

Know the whole story



Real-time, quantitative live-cell analysis **IncuCyte[®] ZOOM System**

The IncuCyte ZOOM[®] system is a live-cell imaging and analysis platform that enables automated quantification of cell behavior over time (from hours to weeks) by automatically gathering and analyzing images around the clock. The system provides insight into active biological processes in real-time which is not possible using single-point and end-point measurements.

The system resides within the controlled environment of a standard cell incubator. All imaging is completely non-invasive and non-perturbing to cell health. The system can process multiple plates, flasks and dishes in parallel and does not depend on shuttling plates into and out of the incubator.

The IncuCyte ZOOM[®] System allows you to:

- Complete long-term time-course experiments and then select optimal time points for post capture analysis.
- Follow the sequence of biological events, and then “rewind and replay” the experiment to understand and study the dynamics of what really happened to your cells while you were away.
- Build the data volume you need to validate and publish new ideas faster and more frequently.
- Perform routine cell health and proliferation studies alongside more advanced applications such as chemotaxis, T cell killing and stem cell differentiation.
- Use your time more efficiently. You can simply walk away and analyze your data remotely from any computer on the network.



Real-time visualization and quantification

The IncuCyte ZOOM® System enables you to retrospectively select optimal time points for analysis, eliminating the need to define an assay end-point *a priori*. You can observe and quantify cell behavior over time. Data is automatically collected by the system from inside your incubator around the clock and is analyzed in real time (Figure 1), allowing you to gain deeper insight into active biological processes.

Versatility & Flexibility

The IncuCyte ZOOM® System supports High Definition phase-contrast and 2-color (green and red) fluorescence automated imaging modes. The instrument scans cell plates or tissue culture flasks according to a user defined schedule. A single system can house 6 micro-titre (e.g., 96 and 384-well) plates or T-flasks (Figure 2) and can automatically acquire and analyze up to 2,000 images per hour. In addition, the IncuCyte™ software package allows for integrated processing of all three channels (Figure 3).

With unlimited software licenses, system control and data access are enabled from any computer on your local network. This remote capability allows you to view real-time data at your convenience (Figure 4).



Figure 2. The IncuCyte ZOOM® System is compatible with variety of cell culture vessels. The system supports over 600 standard plates (including 96- and 384-well), T-flasks, dishes and microslides. With three configurable trays, you can mix and match multiple vessels and even monitor different experiments running concurrently.

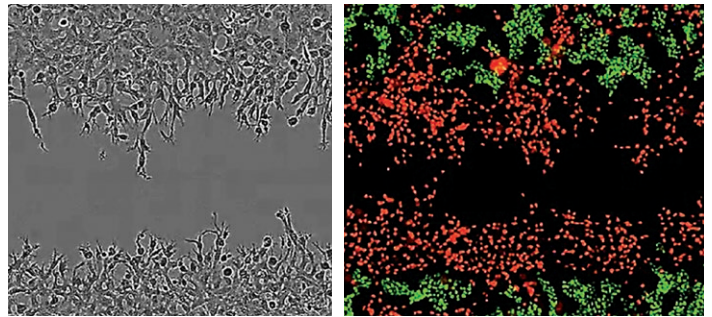


Figure 3. Phase contrast and 2-color fluorescence imaging in scratch wound invasion assay.

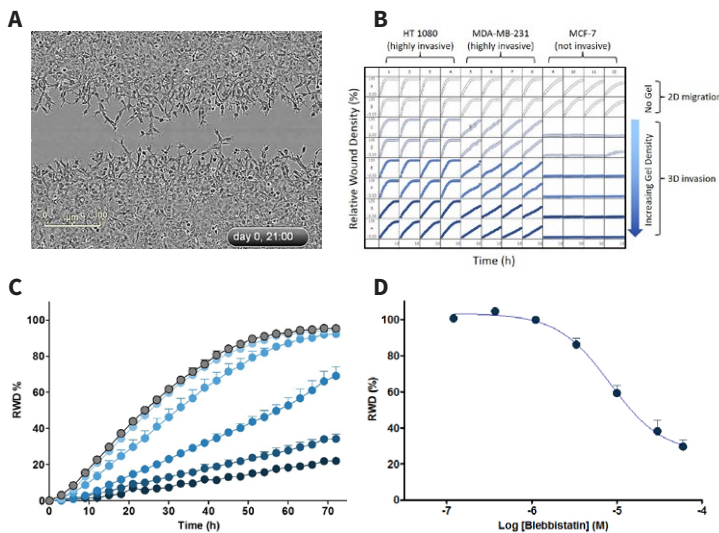
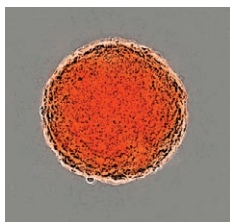


Figure 1. Real-time visualization and data analysis in a 96-well format using the IncuCyte™ Scratch Wound Cell Invasion assay. **(A)** High definition phase contrast images and movies enable detailed inspection of cell morphology and phenotype for HT-1080 fibrosarcoma cells penetrating a 3D Matrigel® matrix to close the wound. **(B)** Microplate graph showing the invasion profiles for highly invasive (HT-1080 and MDA-MB-231) and non-invasive (MCF-7) cells types in the presence of increasing 3D gel density. **(C)** Concentration-dependent inhibition of HT-1080 invasion in response to blebbistatin and **(D)** blebbistatin inhibition curve from the time course data.

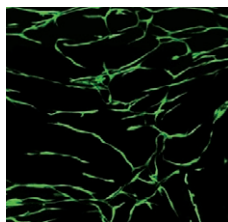


Figure 4. The IncuCyte ZOOM® system control and data access are enabled from any computer on your local network.

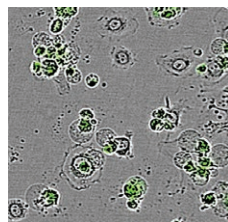
KEY APPLICATIONS:



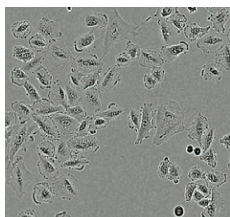
3D-Spheroids



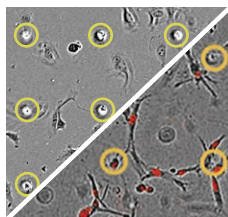
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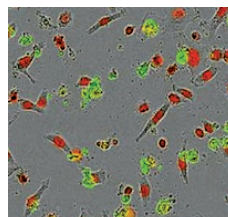
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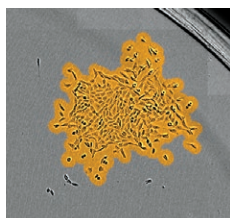
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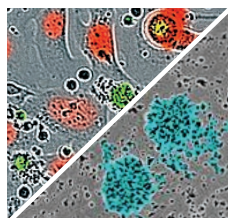
Chemotaxis
Migration & Invasion



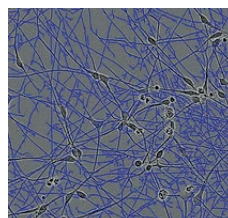
Cytotoxicity



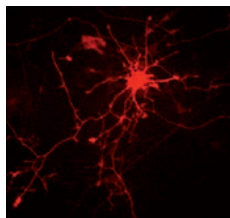
Dilution Cloning



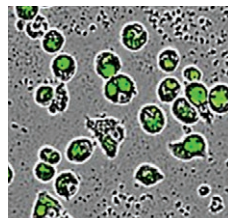
Immune Cell Killing,
Clustering & Proliferation



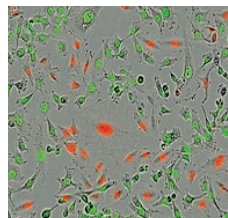
Neurite Dynamics -
Label-Free



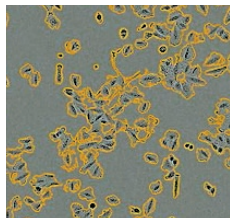
Neuronal Co-Culture -
Fluorescence



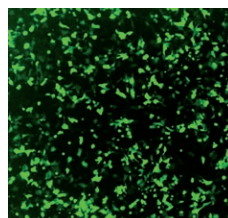
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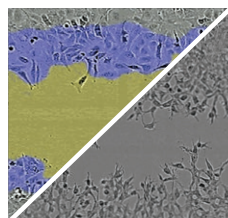
Proliferation -
Cell Count



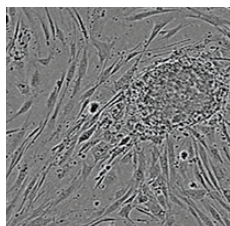
Proliferation -
Confluence



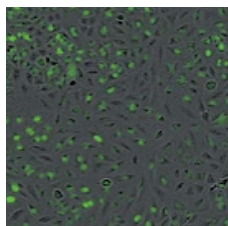
Reporter Gene



Scratch Wound
Migration & Invasion



Stem Cell Monitoring
& Reprogramming



Transfection
Efficiency

Powerful phenotypic cellular analysis with IncuCyte™ Software Modules

From the most common applications such as cell health and viability to some advanced applications such as chemotaxis, cell migration and angiogenesis, the IncuCyte™ Software Modules help you address questions fundamental to your research and explore new areas of study.

IncuCyte™ Basic Software is free with the purchase of an IncuCyte™ System. To learn more about the IncuCyte™ software modules, visit essenbioscience.com/incucytesoftware.

IncuCyte™ Chemotaxis Cell Migration Software

This add-on module analyzes label-free and fluorescently labeled chemotactic cell migration images acquired using the ClearView Cell Migration Plate.

IncuCyte™ Scratch Wound Cell Migration Software Module

This module allows users to automatically measure scratch wound cell migration and/or invasion using 96-well ImageLock™ plates.

IncuCyte ZOOM® NeuroTrack™ Software Module

This module allows users to measure neurite dynamics with or without labels in living cells. Measurements of neurite length and branch points are visualized in full time-course plots for each well in 96-well and 384-well formats.

IncuCyte™ Angiogenesis Software Module

This module allows users to automatically process and quantify vascular tube dynamics, such as network length and branch points, in a 96-well format and measure vascular tube dynamics.

Peer Reviewed Publications

Over 500 publications reference the IncuCyte™ system. You can browse the fully searchable publications by applications and/or research areas at essenbioscience.com/publications.

Learn more at essenbioscience.com/applications.

Or contact us at sales@essenbio.com.

“...the reliability is remarkable”
 “...transformative for our research institute”
 “...an ideal solution...”

Customer Testimonials

“Research is in part a lot of hard work, timing and good luck. Lucky for us, Essen BioScience released IncuCyte™ and took away much of the hard work associated with proliferation and migration assays in our studies under hypoxic conditions. We have two IncuCyte™ Systems that have been running virtually non-stop for the last four years, and the reliability is remarkable. The newly acquired IncuCyte ZOOM® Systems is opening new areas of opportunity in our study. Timing wise, I only wish Essen had released IncuCyte™ years earlier!”

— Stephen Chung, Lab Manager in Brad Wouter’s Lab, Hypoxia Program, Ontario Cancer Institute

“The IncuCyte FLR and ZOOM® systems have been transformative for our research institute. The IncuCyte™ platform allows us to replace end-point assays for cell viability with high-throughput, kinetic assays in which viability (measured as cell confluence) or morphology is measured as a function of time in response to specific perturbations, so that we can rapidly execute both small- and large-scale studies and comprehensively address the questions fundamental to our research.”

— Alexander Pertsemliadis, Associate Professor, Departments of Pediatrics and Cellular & Structural Biology, Greehey Children’s Cancer Research Institute, UT Health Science Center at San Antonio

“The IncuCyte™ automated long-term live-cell imaging system, offers a powerful platform for stem cell research. This imaging system, in combination with cellular dyes, stem cell specific stains and antibodies, is an ideal solution for real time tracking of reprogramming, dissecting basic biology and screening for modulators of pluripotency maintenance and differentiation.”

— Uma Lakshmiopathy, Thermo Fisher Scientific

Ordering information		
Product	Quantity	Cat. No.
IncuCyte ZOOM® Instrument	1 each	Contact sales
IncuCyte™ Chemotaxis Cell Migration Software	1 each	9600-0015
IncuCyte™ Scratch Wound Cell Migration Software	1 each	9600-0012
IncuCyte™ Angiogenesis Software	1 each	9600-0011
IncuCyte™ NeuroTrack™ Software	1 each	9600-0010

[Learn more at essenbioscience.com/IncuCyte](http://essenbioscience.com/IncuCyte)

Order IncuCyte™ Reagents, Consumables and Warranties

Visit essenbio.com to find reagents and consumables that are compatible with the IncuCyte ZOOM® System as well as IncuCyte™ warranties. You may also contact your local sales reps for more information.