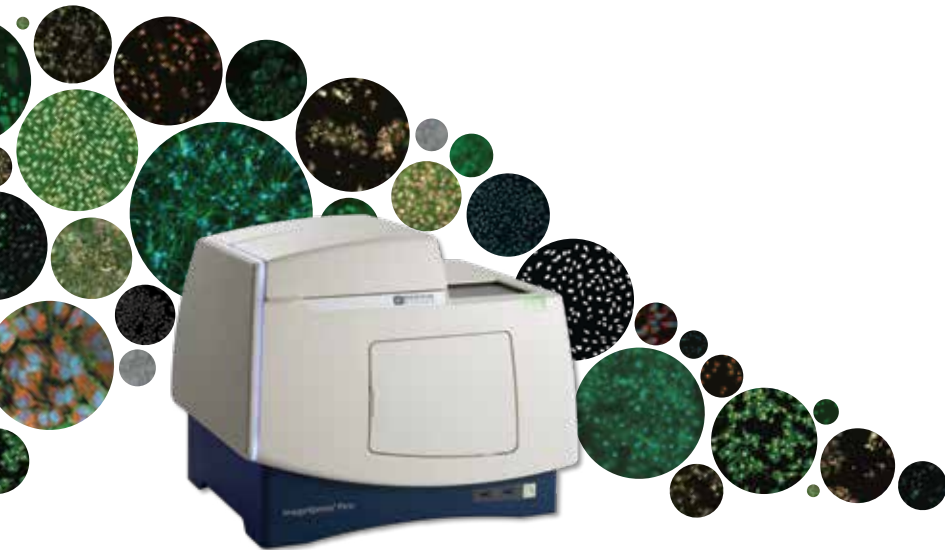
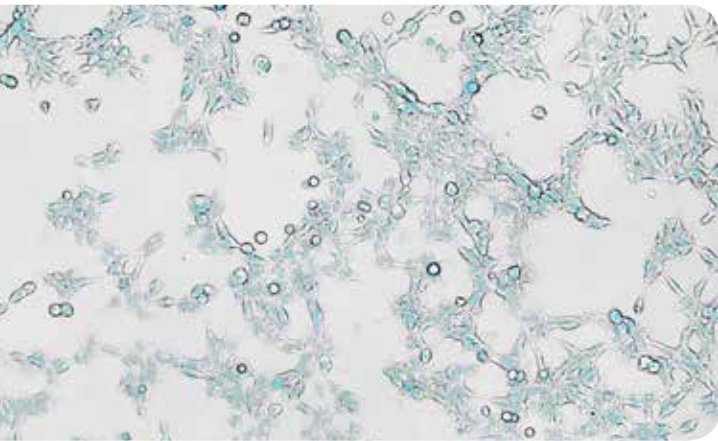
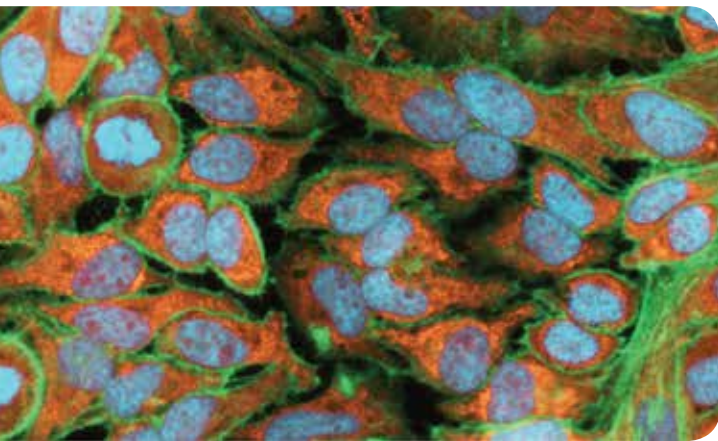


ImageXpress Pico Automated Cell Imaging System

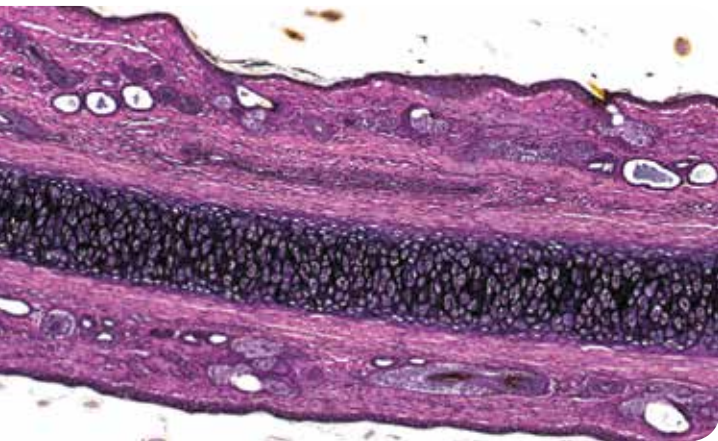




Transmitted light with fluorescence overlay



Fluorescence imaging



Color imaging brightfield



Intelligent cellular imaging and analysis

The ImageXpress® Pico Automated Cell Imaging System does more than imaging—it offers unparalleled analysis capabilities that simplifies image analysis for cell-based assays.

Get started in a snap

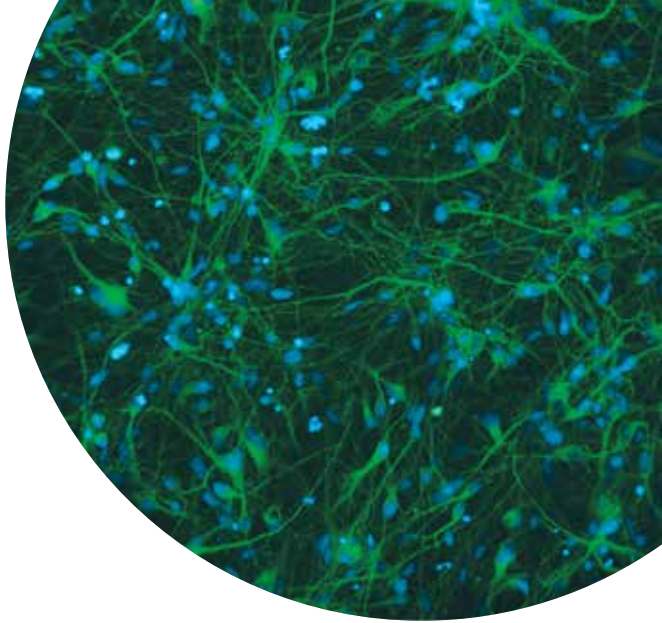
With the icon-driven, user-friendly CellReporterXpress™ Image Acquisition and Analysis Software, everyone can start capturing and analyzing images with minimal training.

Do more than cell counting

Expand your assays with various preconfigured templates optimized for many cell-based experiments including apoptosis, mitochondrial evaluation, 3D cell models, live cell/timelapse, and neurite tracing.

Automate imaging affordably

Alleviate the hassle of going to the core lab to run your samples. The system's lab-friendly price allows researchers to afford the convenience of automated imaging and analysis on their lab bench. With options like environmental control and z-stack acquisition, the system can be ordered to fit your research needs.



Now you can get answers immediately

Replace tedious manual microscope manipulations with the fully automated ImageXpress Pico system.



Acquisition

Place a microplate or slide into the system. After a few clicks in the software, the system will run automatically and allow users to walk away.



Analysis

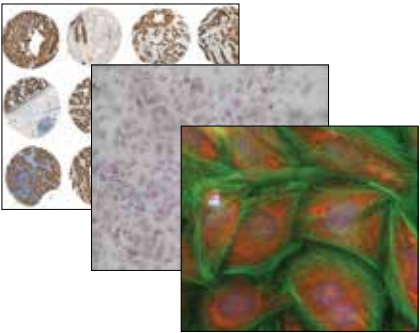
Immediately view results, which are automatically extracted from images in various formats including image montages, bar graphs, tables, scatter plots, and movies.

The system can run and analyze over 25 preconfigured protocol templates.



Answers

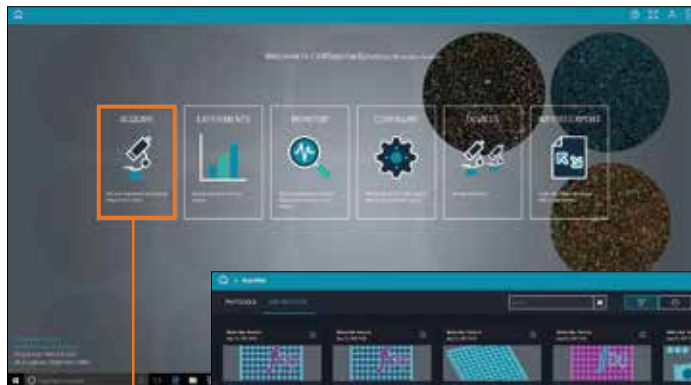
Export and share data and images for presentations and publications with the built-in sharing and remote access capabilities. The system supports a multi-user environment and can be accessed and operated online via Chrome or Safari.



Capture images with a guided, step-by-step workflow

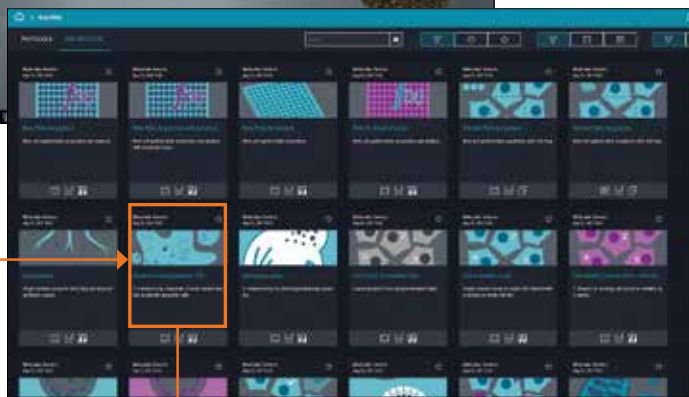
Getting started with image acquisition is easy. The CellReporterXpress software offers an icon-driven, step-by-step workflow that guides users to take their first image in minutes.

- User- and software-selectable range of objectives from 4–63X magnification
- Channels include Cy5, TRITC, DAPI, FITC, and Texas Red



1. Select the 'Acquire' tab on the homepage to get started.

Homepage



Preconfigured templates

2. Choose the preconfigured template appropriate for your assay.

3. Follow the easy icon-driven workflow.



Minimize setup time with preconfigured protocol templates

The ImageXpress Pico system features preconfigured templates optimized to collect the most pertinent information for various cell-based assays removing the guesswork from optimizing parameters.

Over 25 protocol templates are available. Some of the commonly used ones are listed here.

Not seeing what you want? You can still customize!



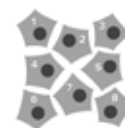
Angiogenesis



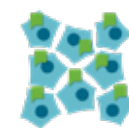
Autophagy



Cell count



Cell count –
transmitted light



Cell scoring



Cell scoring –
transmitted light



Double marker
expression



Endocytosis



Live cells



Lysosomes



Mitochondria

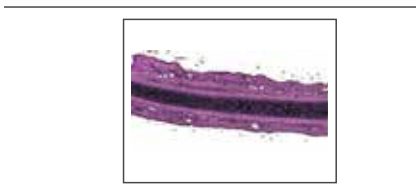


Phagocytosis

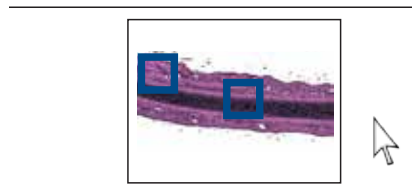
Get to your targets faster with a quick overview scan

Reduce time and data storage with the Overview feature. The whole slide or well can be quickly scanned to generate an overview image that helps locate regions of interest. The user can then select multiple regions of interest to acquire at a high resolution.

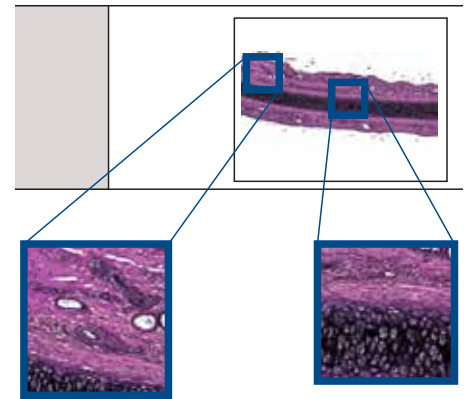
Create a quick, whole-slide image overview.



Select regions of interest.

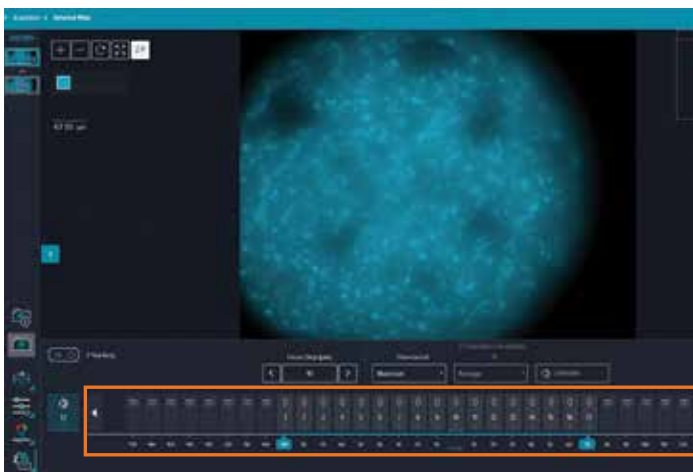


Selected regions are rescanned at a higher magnification to view detailed phenotypes.



Capture deeper insights with z-stack acquisition

Generate sharper images for more accurate segmentation using z-stack acquisition. Acquire a series of images at different focal points to capture more detail than with a single slice. Users can include all slices or select which slices to include in the final projection.



Quickly scroll through an acquired z-stack using the Z Projection Calculations toolbar. View the composite of images in real time to generate the best projection.



Slices can be saved during acquisition setup and viewed individually.

Analyze data easily with preconfigured templates

The preconfigured templates are optimized to automatically determine critical information for various cell-based assays. Users need not worry about tweaking parameters or exporting to third party software for analysis.

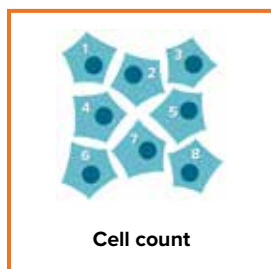
Below are some example templates and possible applications.

Cell counting

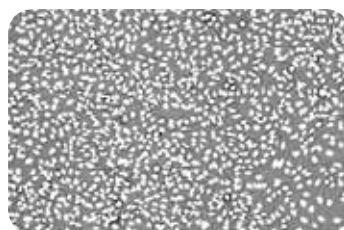
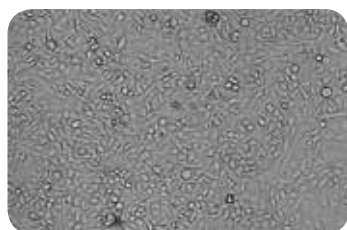
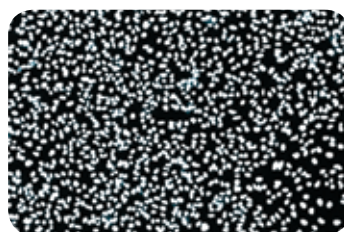
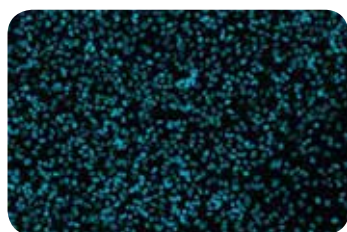
The protocol automatically allows image segmentation and cell counting in different modes:

- Fluorescence
- Label-free transmitted light

Cells are identified and shown with a white mask.



A few clicks

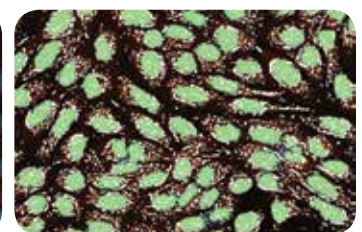
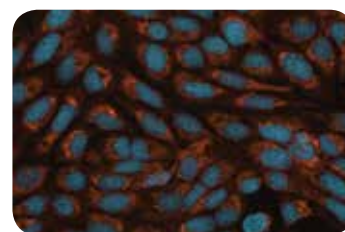


Mitochondria integrity

The protocol automatically characterizes small objects such as mitochondria in the cytoplasm while using the nuclear marker to segment cells. Readouts include total number and total area of “granules” (subcellular objects).



A few clicks

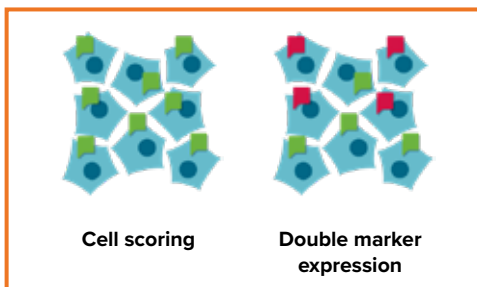


• Nuclei • Mitochondria

• Nuclei ○ Mitochondrial particles

Analyze dose response on whole cell populations or subpopulations

The protocol automatically characterizes multiple readouts including cell viability, cell shape, cell adhesion and spreading, and cytoskeleton integrity (morphology).



A few clicks



Control image

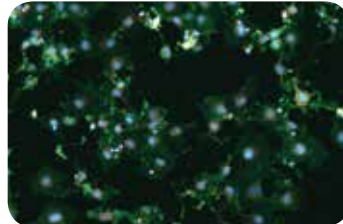
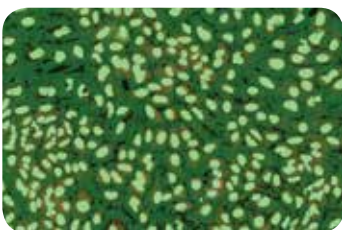
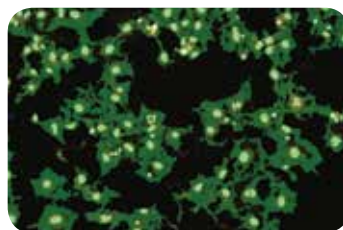


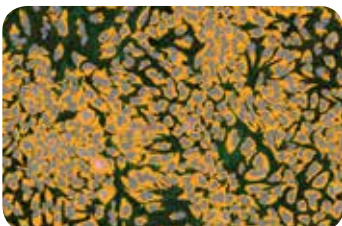
Image of cells treated with compound



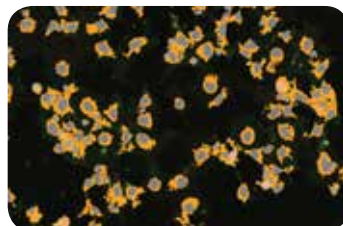
Control actin analysis mask



Treated actin analysis mask



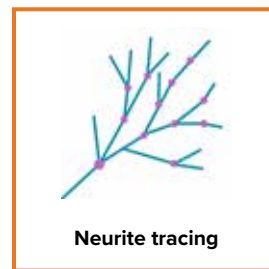
Control mitochondria analysis mask



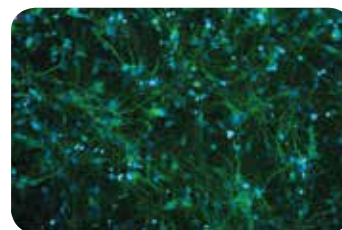
Treated mitochondria analysis mask

Neurite tracing

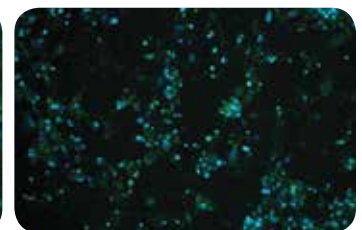
Phenotypic readouts for neurite outgrowth include characterization of the extent of the outgrowth, the number of neurite processes, and the extent of branch.



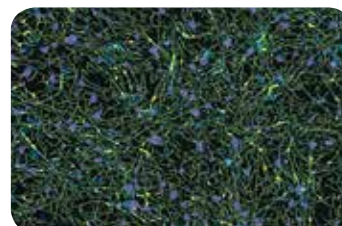
A few clicks



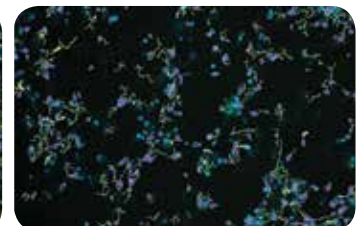
Control image



Neurites treated with compound



Control mask

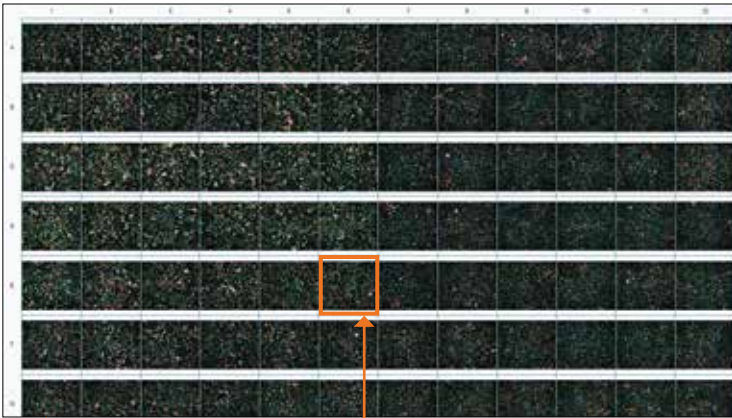


Neurites treated with compound mask

Visualize results with different data formats

Cell gallery

The cell gallery feature allows users to navigate back and forth between a whole plate or slide and individual cells of interest with a few clicks.



Visualize an entire plate with the thumbnail view.



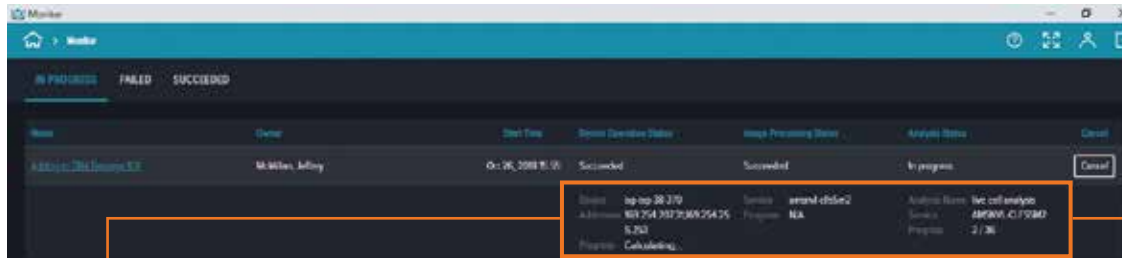
View populations of cells across the entire well in different formats like scatter plots, tables, or histograms.



Use the simple select-and-zoom feature to drill down to a specific cell image or back to the entire well or graph.

Analyze during acquisition using on-the-fly analysis

Reduce the time to run experiments with our integrated on-the-fly image analysis capability, allowing you to view numeric data during acquisition.

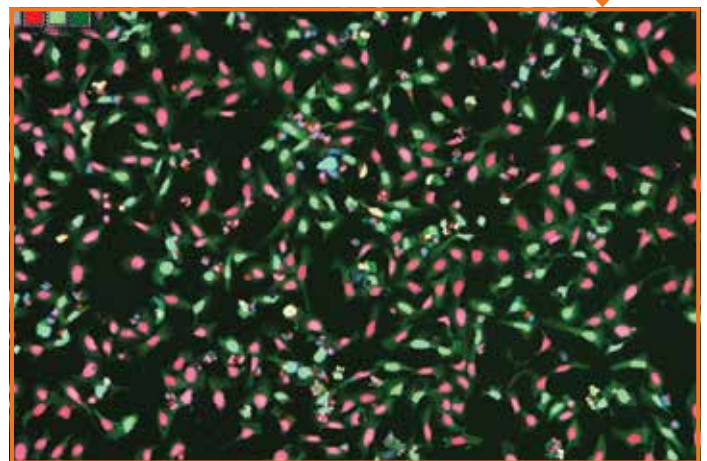
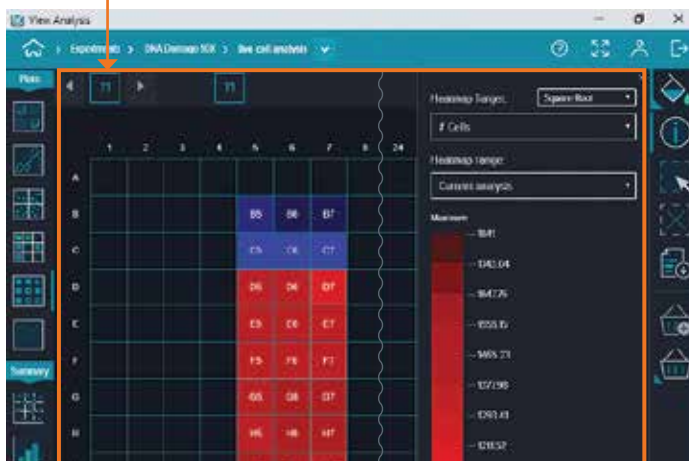


During acquisition, simultaneously check on images and analyze your data.



Well B2

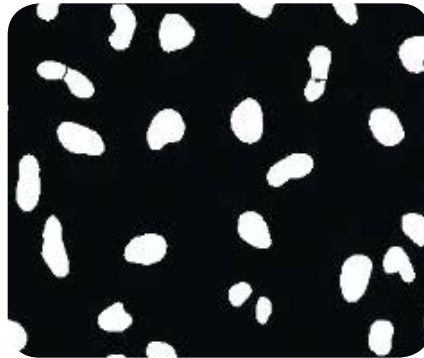
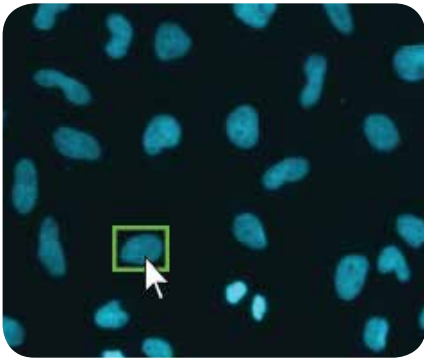
Well L2



Heat maps, analysis masks, and more are available to analyze your data on-the-fly.

Click-to-find tool

The ImageXpress Pico system offers a click-to-find tool in which the software automatically defines the parameters of a feature with a single click. The system then finds and identifies objects that match the selected criteria.



The user can automatically identify and analyze objects based on ones selected. Additional parameters can be used to optimize selection as desired.

Browser-based software

The browser-based CellReporterXpress software enables users to access their data and conveniently operate the ImageXpress Pico system from anywhere, even when away from the lab.



PC and Mac friendly



Tablet friendly

Touchscreen compatible

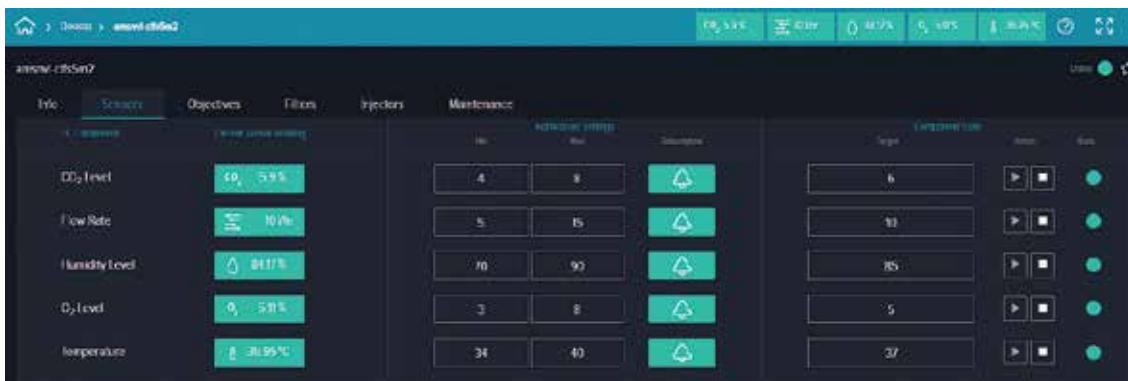
Enable live cell imaging and real time environmental control

Environmental control mimics the cell environment and enables you to run multi-day studies, time lapse, and live cell assays. With CellReporterXpress software, the system provides visibility for environmental control during acquisition to ensure that the system is running at peak performance during your assay.

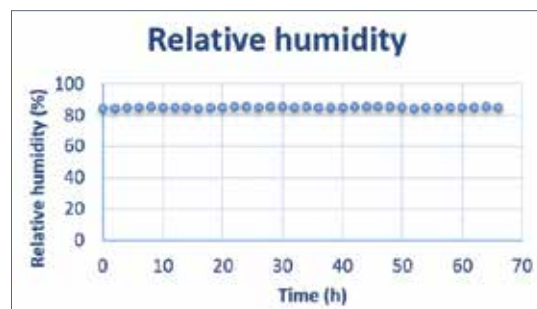
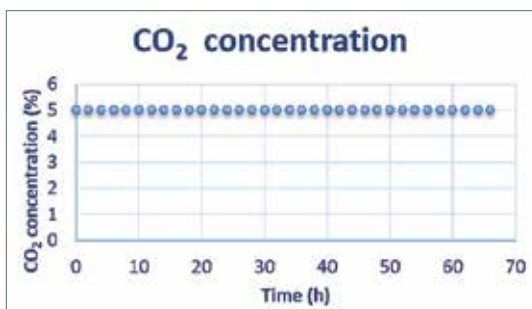


The small environmental control system integrates into the rear of the ImageXpress Pico system to maintain a small surface area for tight lab spaces.

Microplates are placed in a cassette chamber which introduces and maintains gas and humidity while reducing gas usage as compared to flooding the entire system. Cassettes can also be sterilized through UV.



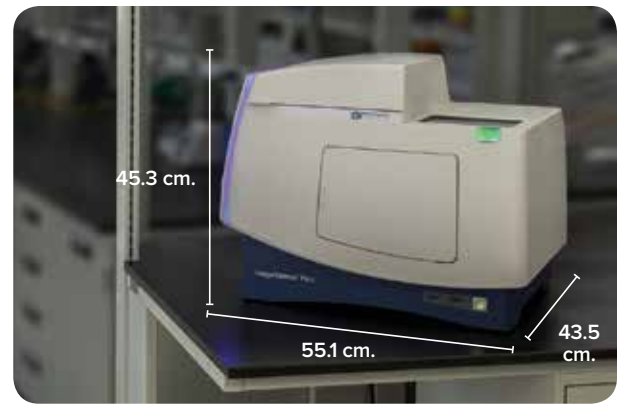
Settings can be configured through CellReporterXpress software and monitored during acquisition. Easily watch multiple sensors and get notifications. Acquired sensor data is linked to the experiment.



Perform live cell experiments while maintaining optimal environmental conditions.

Compact size fits on lab benches

Setup is easy with no special needs associated with manual microscopes such as a darkroom or air table.



Specifications	
Imaging modes	Transmitted light (brightfield), colorimetric, fluorescence
Illumination	High power LEDs with >20,000 hour life
Objectives	6 position automated turret with user-exchangeable objectives. Optics by Leica Microsystems: FLUOTAR 4x/NA 0.13, 10x/NA 0.32, 20x/NA 0.40, 40x/NA 0.60, 63x/NA 0.70
Camera	Sony CMOS, 5 megapixel
Channels	Cy5, TRITC, FITC, DAPI, Texas Red, CFP, white light, and RGB
Stage resolution	0.625 μ m
Stage precision	5 μ m
Imaging method	Single color, multi-color, time lapse, and Z-stacking
Autofocus method	LED autofocus or image autofocus with LED assist
Supported labware	6- to 384-well plates and 25 mm x 75 mm (1 in. x 3 in.) slides
Supported operating systems	Windows 10 (main computer), Windows 10 and macOS (clients)
Image output	16 bit TIFF, JPG, MP4
Dimensions (in)	17.8 (H) x 21.7 (W) x 17.1 (D)
Dimensions (cm)	45.3 (H) x 55.1 (W) x 43.5 (D)
Weight (kg)	38 kg (84 lb) including options
Power	100 VAC to 240 VAC, 50/60 Hz, 1.6A nominal at 115V, 200 Watts Max
Ambient operating temperature	18°C to 30°C (59°F to 86°F)
Temperature control	Ambient +8°C to 40°C
Temperature control homogeneity	37°C \pm 0.5°C at 23°C ambient
Gas control	O ₂ control, 1-15% and ambient, CO ₂ control, ambient to 15%
Humidity control	Active humidity control. Sample compartment controlled to 85% nominal humidity.

The ImageXpress Pico system features optics by Leica Microsystems.

To learn more, please visit moleculardevices.com/pico.

Contact Us

Phone: +1.800.635.5577
 Web: www.moleculardevices.com
 Email: info@moldev.com

Check our website for a current listing of worldwide distributors.

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United Kingdom +44.118.944.8000	China (Shanghai) +86.21.3372.1088	Japan (Tokyo) +81.3.6362.5260
Europe* 00800.665.32860	Hong Kong +852.3971.3530	South Korea +82.2.3471.9531

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