ImageXpress Pico
Automated Cell Imaging System

MOLECULAR DEVICES
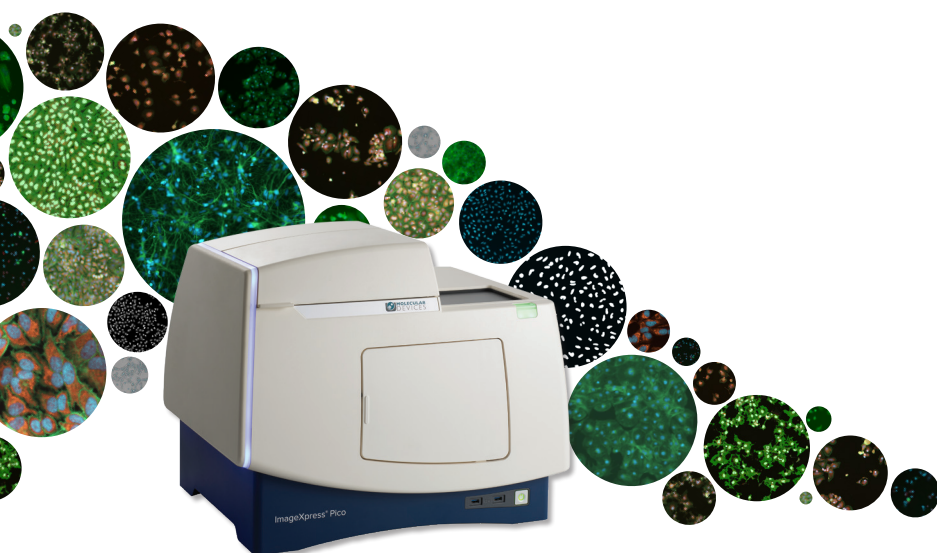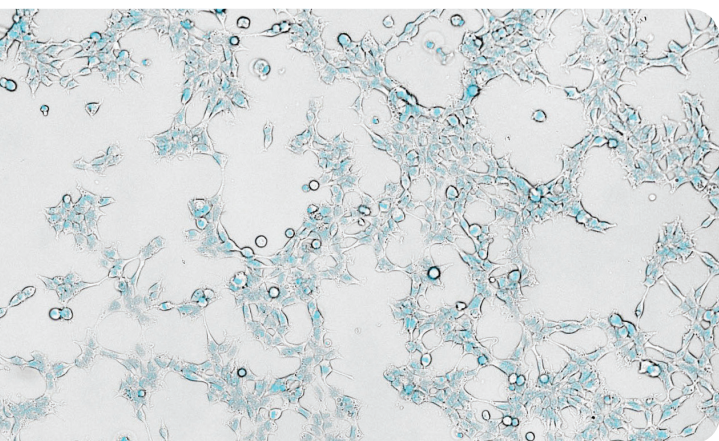
Transmitted light with fluorescence overlay
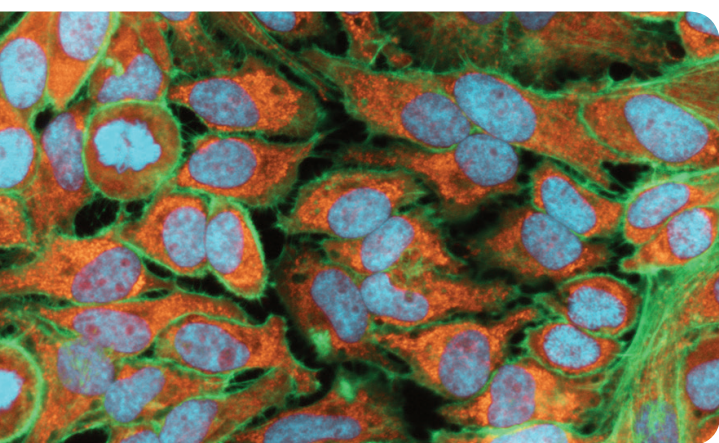
Fluorescence imaging

Color imaging brightfield

Intelligent cellular imaging and analysis

The ImageXpress Pico 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, 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.

Now you can get answers immediately

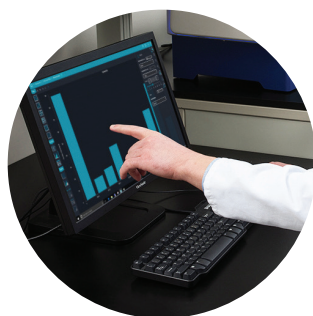Replace tedious manual microscope manipulations with the fully automated ImageXpress Pico system.
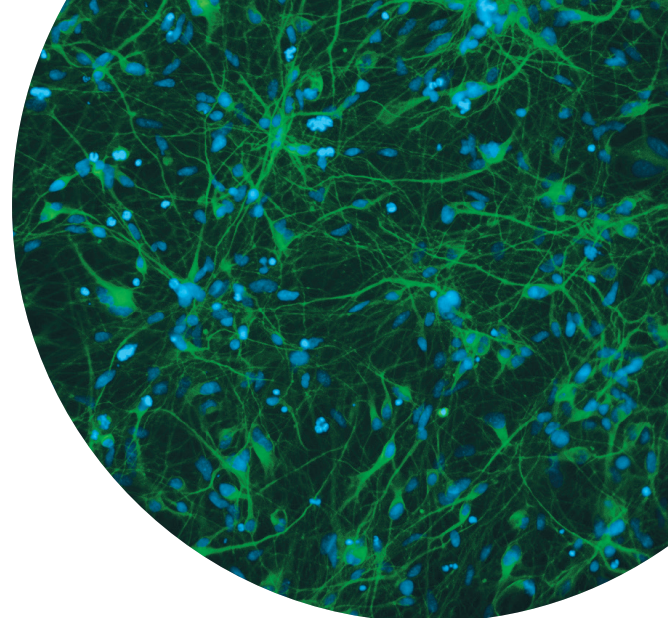
Acquisition	Analysis	Answers

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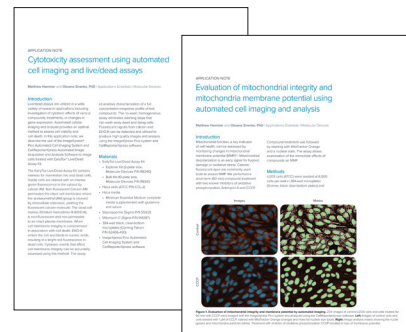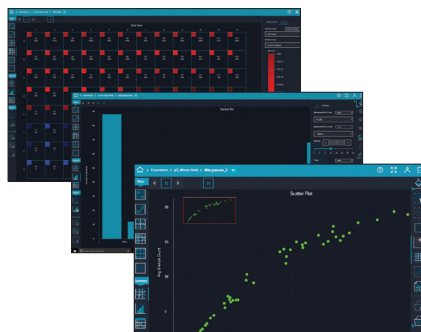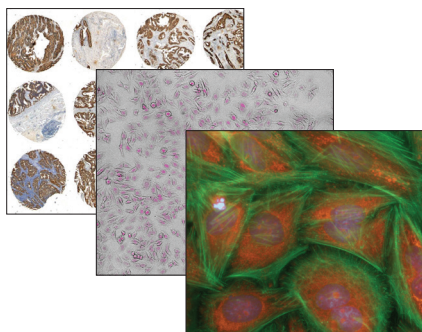
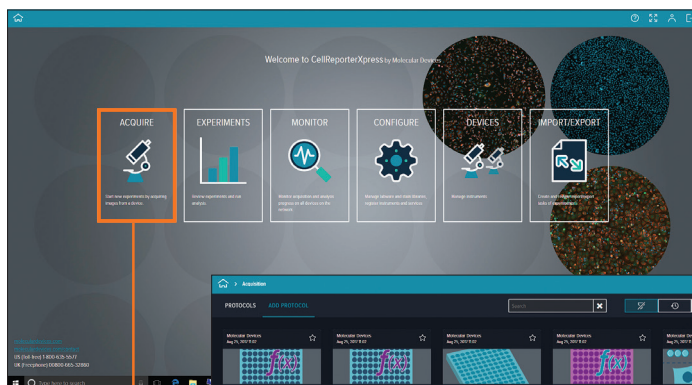The system can run and analyze over 25 preconfigured protocol templates.

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, and FITC**

Homepage

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

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.
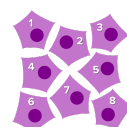
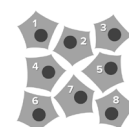**Not seeing what you want?** You can still customize!

|					
Angiogenesis	**Autophagy**	**Cell count**	**Cell count – transmitted light**	**Cell scoring**	**Cell scoring – transmitted light**
Endocytosis	**Internalization**	**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.
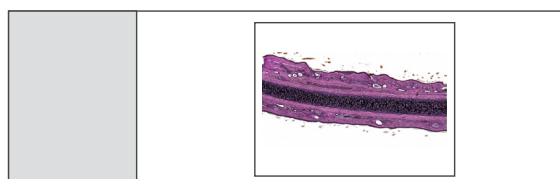
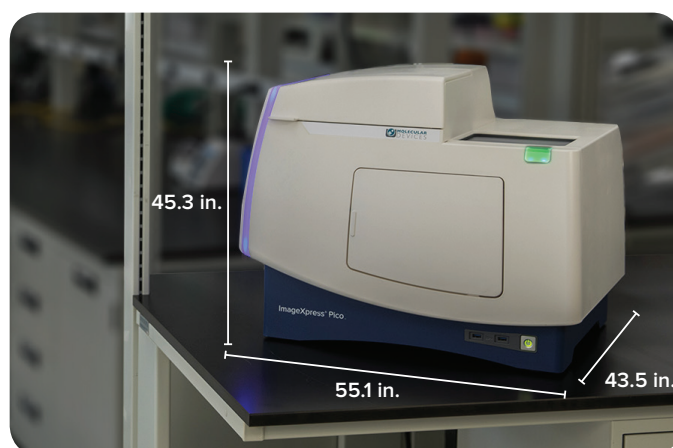Create a quick, whole-slide image overview.
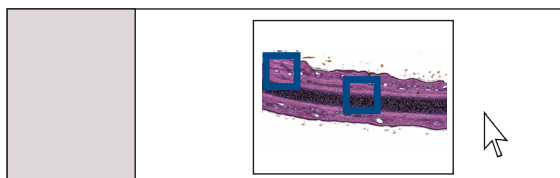
Select regions of interest.
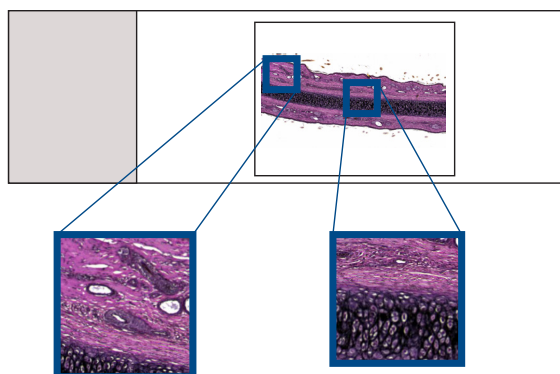
Selected regions are rescanned at a higher magnification to view detailed phenotypes.

Compact size fits on lab benches

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

45.3 in.

55.1 in.

43.5 in.

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.
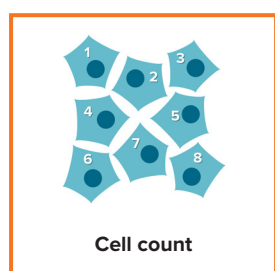
Below are some example templates and possible applications.

Cell counting

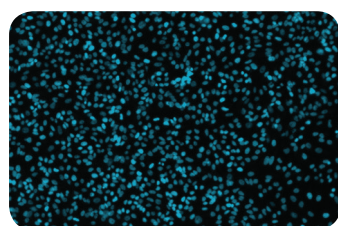The protocol automatically allows image segmentation and cell counting in different modes:
- Fluorescence
- Label-free transmitted light

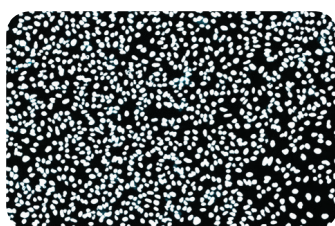Cells are identified and shown with a white mask.

Cell count

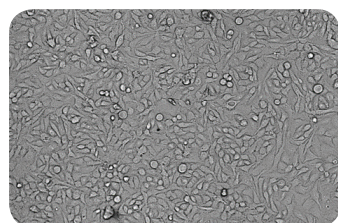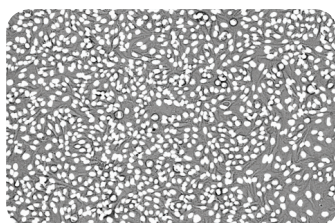Select the appropriate cell counting analysis protocol template.

A few clicks

Fluorescent nuclei stain

Nuclei mask

Label-free cells

Cell mask

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).
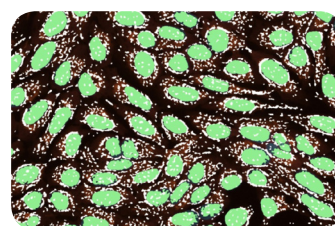
Mitochondria

Choose the "Mitochondria" analysis protocol template.
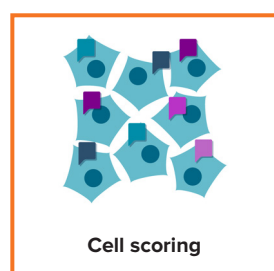
A few clicks

Control image
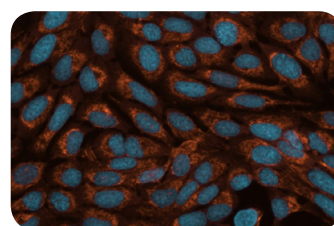
● Nuclei   ● Mitochondria

Control mask
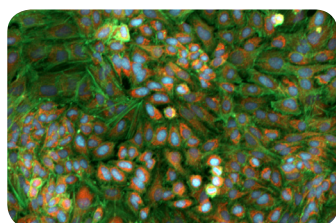
● Nuclei   ○ Mitochondrial particles

Phenotypic analysis of drug effects

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

Cell scoring

Choose the appropriate cell scoring analysis protocol template.

A few clicks

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.

Neurite tracing

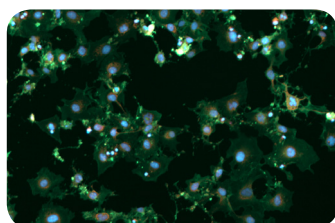Choose the "Neurite tracing" analysis protocol template.
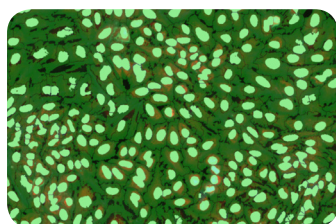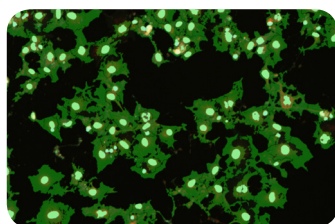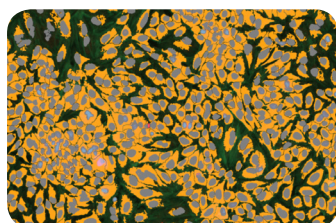
A few clicks

Control image

Image of cells treated with compound

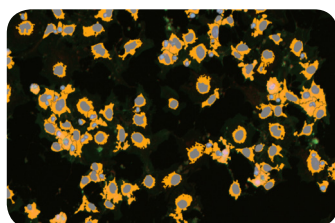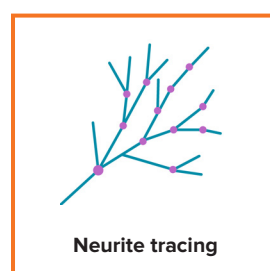**Control actin analysis mask**

Treated actin analysis mask

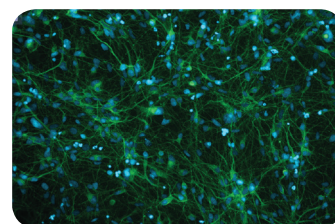**Control mitochondria analysis mask**

Treated mitochondria analysis mask

Control image
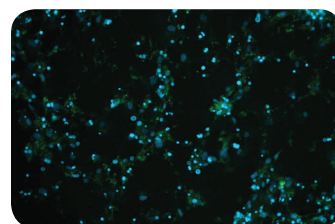
Neurites treated with compound
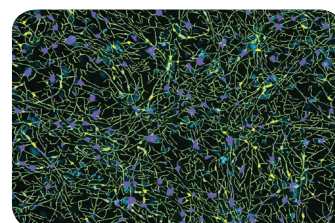
Control mask
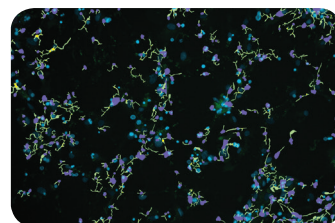
Neurites treated with compound mask

Find answers in various 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.
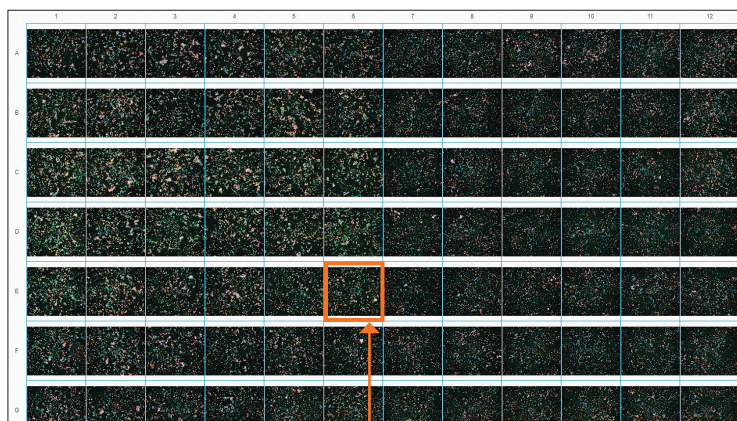
Visualize an entire plate with the thumbnail view.
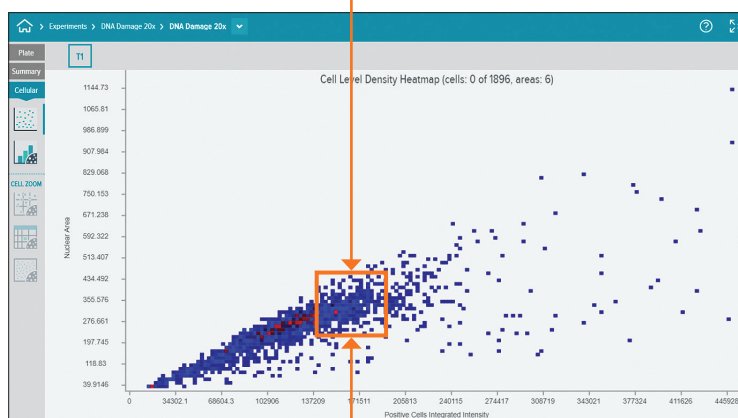
View populations of cells across the entire well in different formats like scatter plots, tables, or histograms.
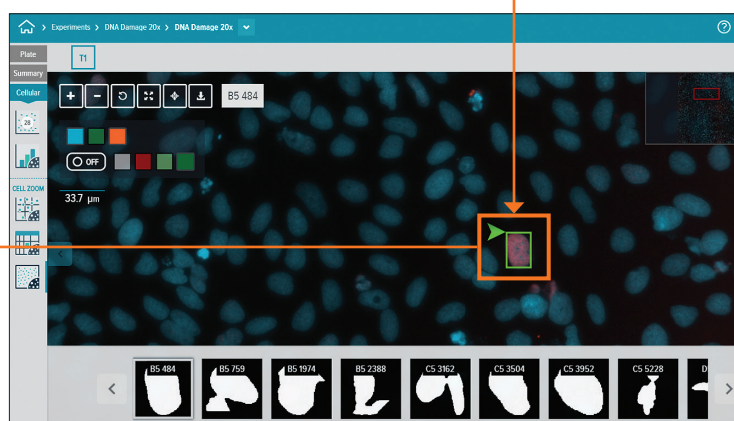
Use the simple select-and-zoom feature to drill down to a specific cell image or back to the entire well or graph.

Zoom in and out digitally with the CellMagnify View

This feature allows users to digitally zoom or pan high-resolution images from whole-well view down to cell-level view while maintaining resolution and important phenotypic data.
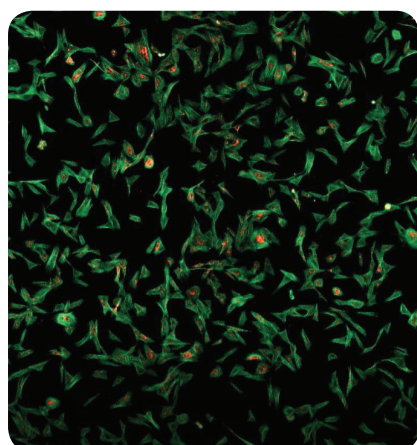
Muntjac cells 20X

Zoom

Muntjac cells 20X

Zoom

Muntjac cells 20X

Easily compare images from different wells with the Comparison Mode.

Well B2   **Well L2**

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.
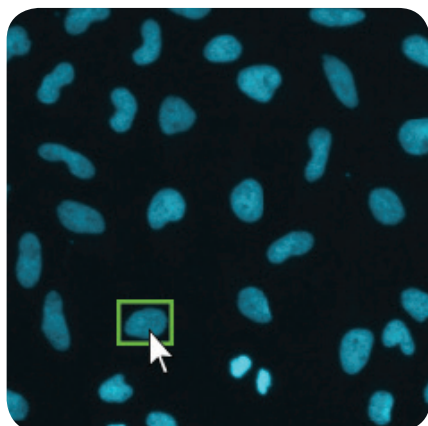
1. **Baseline parameters of the object are automatically identified based on what the user clicks.**
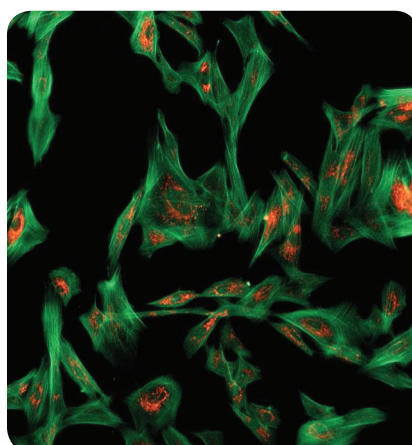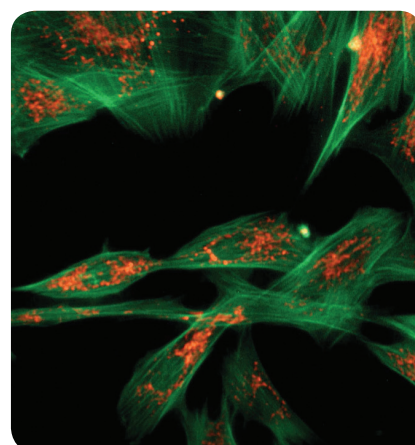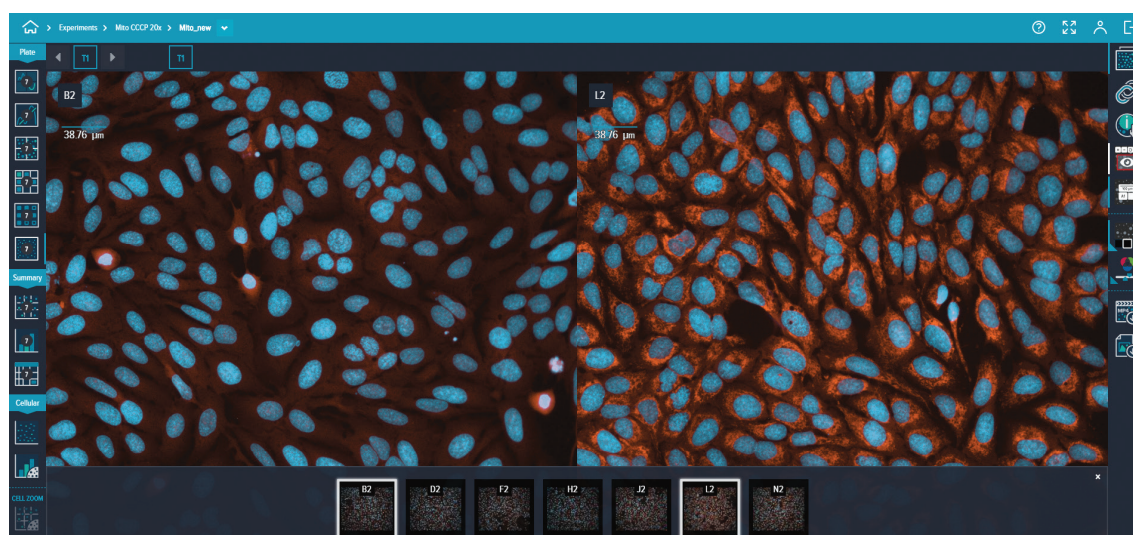
   Parameters are automatically populated and remembered.

Parameter 1	63
Parameter 2	10
Parameter 3	7
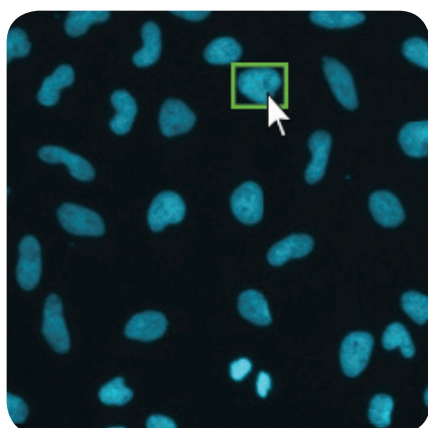
2. **Optimize the parameters by selecting more objects of interest.**

   Select additional cells to train the software on feature variability. Users can continue to select as many objects as they like.

Parameter 1	70
Parameter 2	15
Parameter 3	9

3. **The software automatically identifies and analyzes objects based on the ones selected by the user.**

Cell count	118
Cell Total Intensity	30517.5
Average Area	527.7434

Browser-based software

The browser-based CellReporterXpress software enables access and convenient operation of the ImageXpress Pico system from anywhere, even when away from the lab.
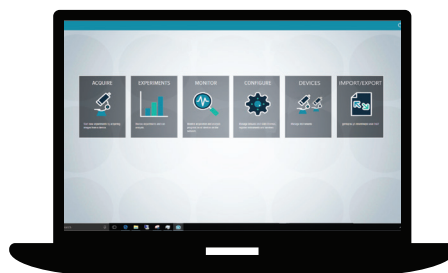
PC and Mac friendly

Tablet friendly

Touchscreen compatible

- Easily export images for PowerPoint presentations and articles with 1 click.
- Select the data you want and export easily to a CSV file.

Specifications

Imaging modes	Transmitted light (brightfield), colorimetric, fluorescence
Illumination	High power LEDs with >60,000 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, white light, and RGB
Stage resolution	0.625 µm
Stage precision	5 µm
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, WMV
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)

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.

Regional Offices

USA and Canada	China (Beijing)	Japan (Osaka)
+1.800.635.5577	+86.10.6410.8669	+81.6.7174.8331
United Kingdom	China (Shanghai)	Japan (Tokyo)
+44.118.944.8000	+86.21.3372.1088	+81.3.6362.5260
Europe*	Hong Kong	South Korea
00800.665.32860	+852.3971.3530	+82.2.3471.9531

Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Netherlands, Spain, Sweden and Switzerland

MOLECULAR DEVICES