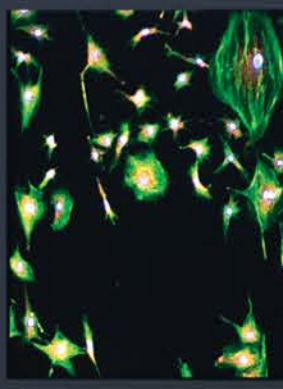
ENDEAVOR ultra



High Content Imaging Platforms
Designed for Speed and Scale

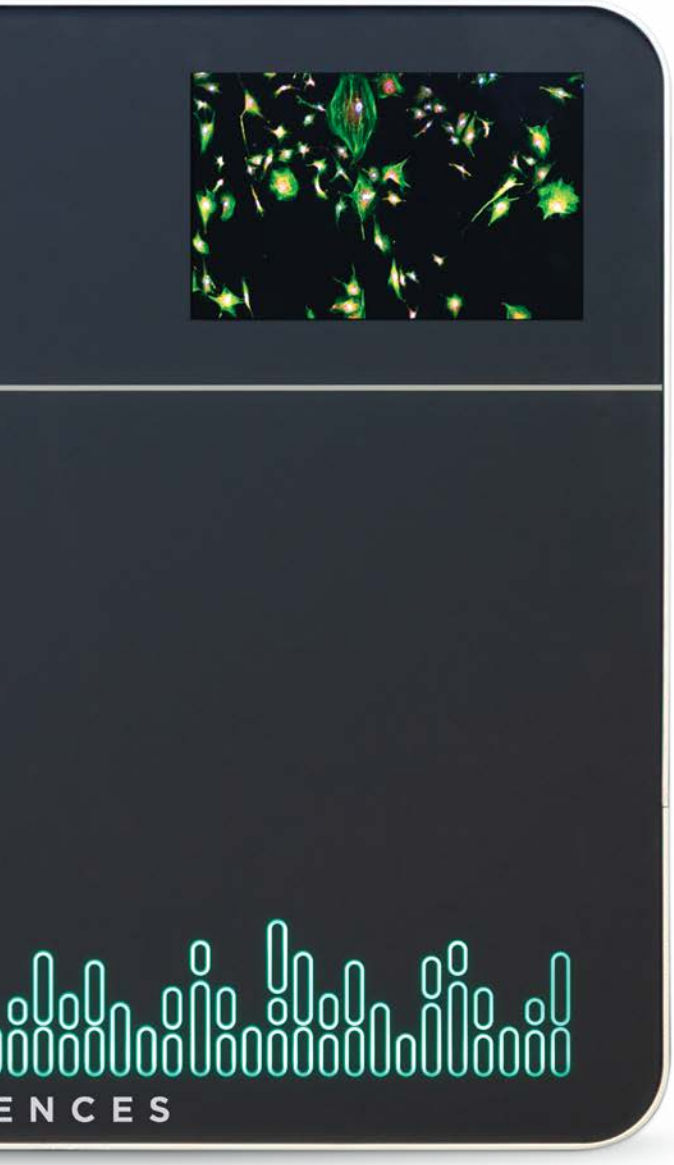
ARACELI BIOSCIENCES

The New Standard in Imaging

Speed

Precision

Simplicity



Elevate the pace of drug discovery and development with a transformative shift in high content screening and analysis. The key imperatives: speed and data quality. Embrace the era of modern, big data by screening an extensive array of compounds, concentrations, and cell types to unveil the finest phenotypic features with remarkable ease and speed. In this fast-paced landscape, we demand swift solutions. With a holistic approach, Araceli set out to revolutionize High Content Imaging from beginning to end and solve each bottleneck in the process. The result? The first end-to-end High Content Screening and Analysis platform to keep up with high throughput workflows.

Now, that same ecosystem is available in a tiered platform family, giving researchers the freedom to choose how far and how fast they want to take their studies, without ever compromising on image quality or data integrity. Whether accelerating adoption, scaling throughput, or pursuing the fastest path to breakthroughs, the Endeavor platform adapts to your lab's needs. From image acquisition to feature identification and visualization at scale, Araceli Biosciences provides a complete ecosystem. Screen with Araceli Endeavor®, scale with automation, monitor in real-time with ClaireRT™, and extract insights with Clairvoyance™ in the same connected workflow, designed with biologists in mind.

Speed
THE NEW STANDARD

Ultra High Throughput Imaging

Acquire detailed, maximized well images of 96, 384, and 1536 well plates in 4 minutes, ensuring a swift and efficient imaging process. Empowering you to scale your research without compromising data quality.

Speed Redefined

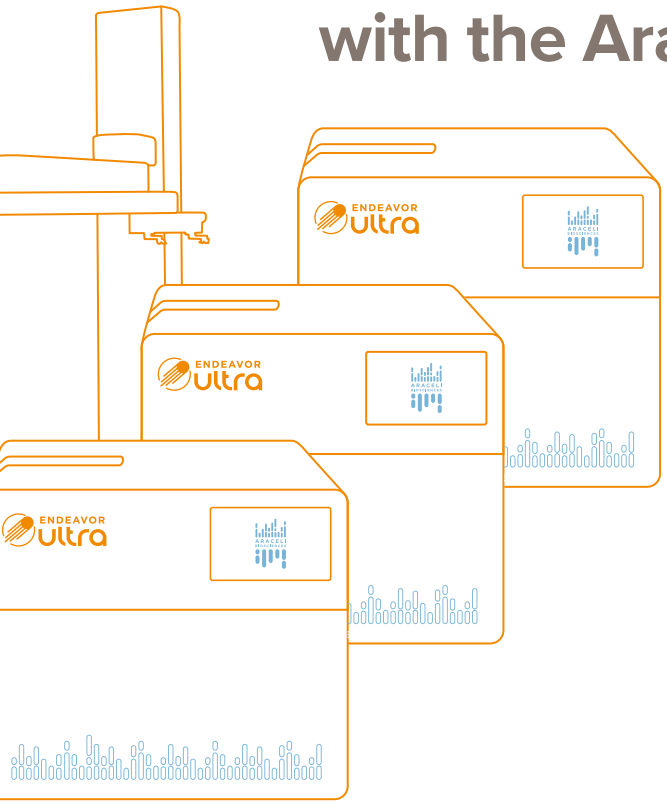
Elevate high content imaging to new heights with Endeavor's Preview mode. Delivering high-resolution images, across a plate in under a minute and up to four fluorescent channels with transmitted light, Endeavor ensures high throughput without compromising quality.

Endeavor is over 10 times faster than traditional platforms, unlocking new screening applications at scale.

Acquisition Times	Plate Format	4 Fluorescent Channels + Transmitted Light (min:sec)	Possible Plates per Day (24 hr)*
PREVIEW	96	0:39	873
	384	0:56	746
	1536	3:56	292
MAXIMIZED WELL COVERAGE	96	3:50	298
	384	3:36	313
	1536	3:56	292

*Represents 24 hour run time per day with automation load/unload time on Endeavor Ultra; data must be offloaded using the 100 Gbps data port

Speed Translates to Ultra High Throughput Imaging with the Araceli Endeavor® Platform



As the demands for high content imaging continue to grow, you can elevate your research capabilities, streamline workflows, and **unlock unprecedented scalability with automation**, the key to maximizing efficiency in high content imaging.

Araceli Endeavor is SiLA 2 compatible. SiLA 2 runs over HTTP/2 and uses Protocol Buffers to serialize payload data. SiLA relies on the wire format specified by a modern open-source high performance Remote Procedure Call (RPC) framework that can run in any environment.

Endeavor Model	Possible Plates* per Day (24 hr)	Possible Plates* per Week (24 hrs/day)	Possible Plates* per Month (24 hrs/day)
ENDEAVOR ultra	283	1,984	8,628
ENDEAVOR pro	212	1,487	6,464
ENDEAVOR core	66	460	1,999

*1536 well plates; 4 channels + transmitted light; B/G/FR/R/TL exposure in ms: 10/30/60/50/4

Seamless Lab Integration

Not an exclusive list.

analytikjena An Endress+Hauser Company · AUTOMATA · PAA · HighRes biosolutions · BIOSERO A BICO COMPANY · ThermoFisher SCIENTIFIC

Unleash the power of ultra high content imaging with automated workflows.

Precision

EVERY CELL COUNTS

Comprehensive Well Coverage

Traditional high content screening imagers acquire a small sample of the well center, leaving most data unimaged on the plate. Endeavor can capture it all, reducing variability and advancing rare event discovery.

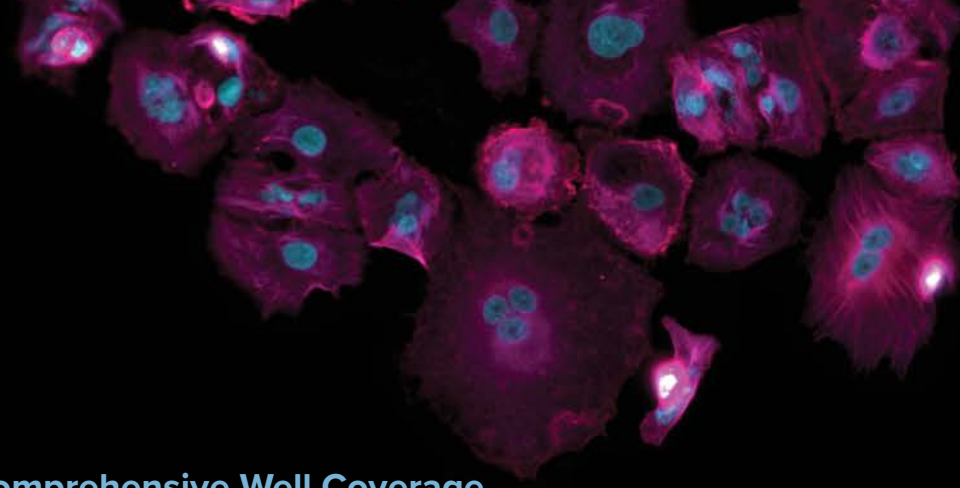
Unparalleled Image Quality

Experience the market-leading 0.27 microns per pixel digital resolution that allows Endeavor to resolve subcellular structures. The platform's efficient light path ensures high-quality images while preserving fluorophore brightness and maintaining cell health.

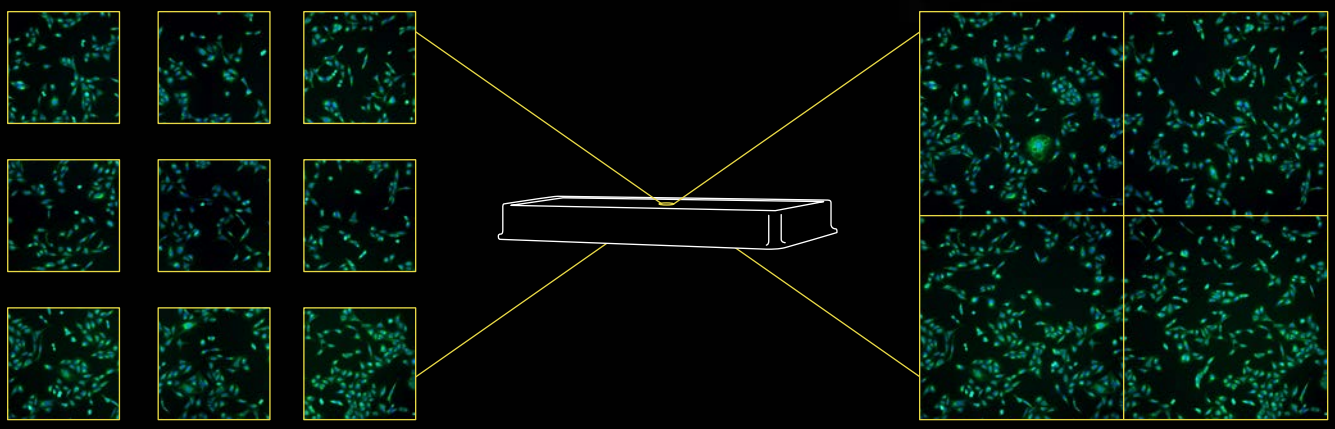
Precision in Image Focus

Employ ultra-fast laser-based autofocus with a 785nm laser, detecting plate location and thickness for consistently in-focus images.

No cell left behind, obtain high-quality image data for every cell, every time.



See the Full Picture with Comprehensive Well Coverage



Traditional High Content Imaging

4.6 mm^2

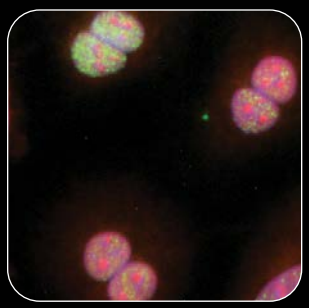
Araceli Endeavor®

5.6 mm^2

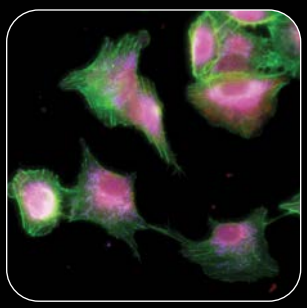
Endeavor provides more coverage per well than traditional HCI platforms while maintaining image quality.

Resolve Subcellular Structures with Unparalleled Image Quality

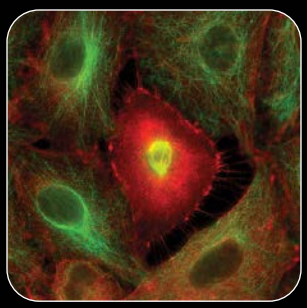
Micronuclei



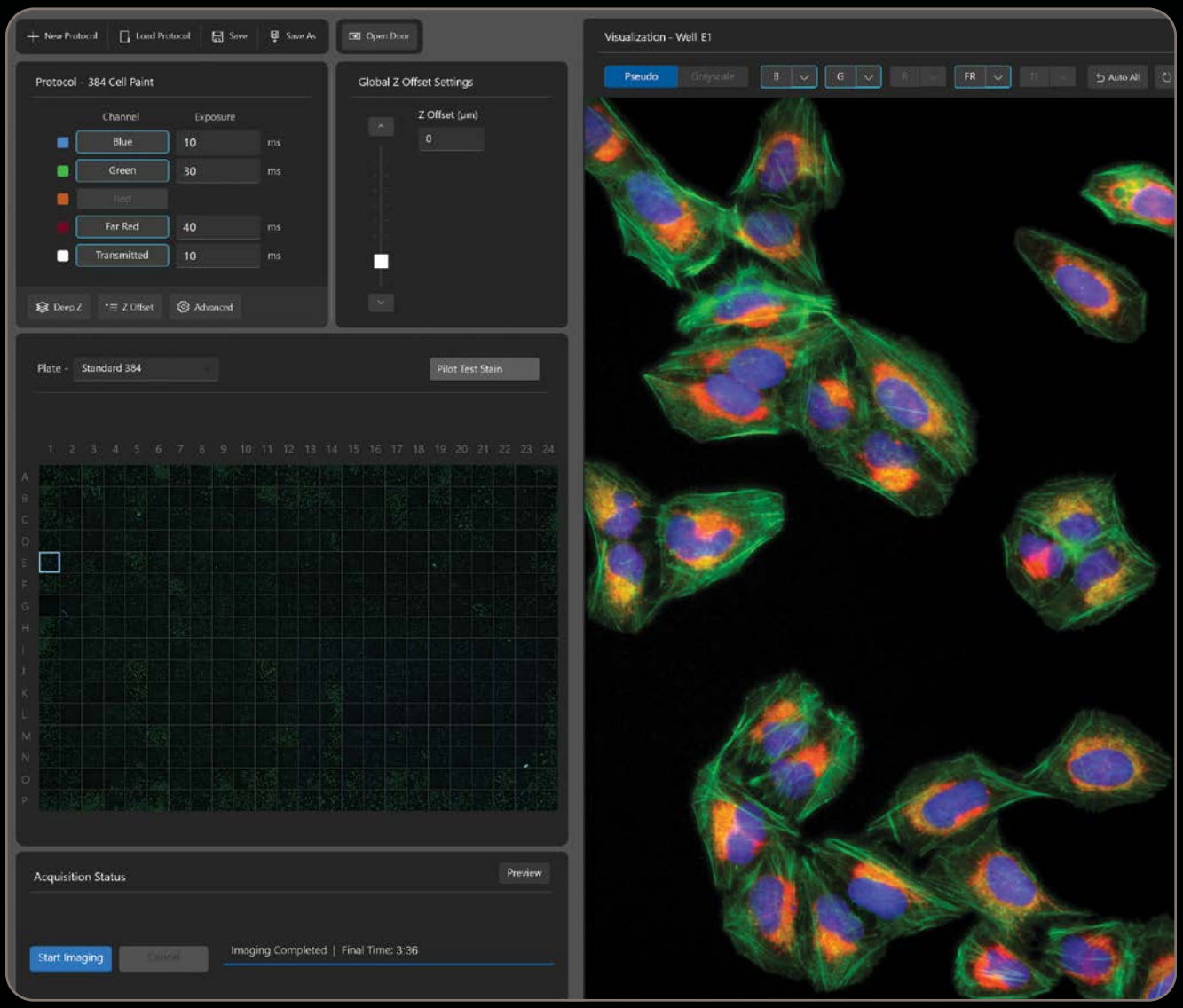
Double-stranded breaks visualized with γH2AX



Actin microfilaments



Actin filapodia and microtubules



Simplicity

INTUITIVE BY DESIGN

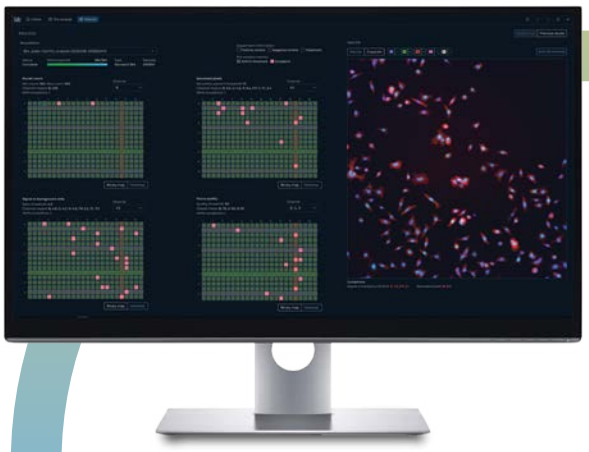
User-Friendly Operation

Minimum training required: Endeavor makes high-quality data acquisition accessible to everyone. The Preview mode enables the quick optimization of acquisition parameters, instilling confidence in your data collection process.

Designed with biologists in mind, the Araceli platform's intuitive UI enables new and experienced users to be trained in 2 hours.

SCALE

ACQUIRE



MONITOR

ClaireRT™

ANALYZE

Clairvoyance™

Araceli Endeavor® Portfolio

Scalable High Content Imaging For Every Throughput Need

The Fastest Path to Breakthroughs

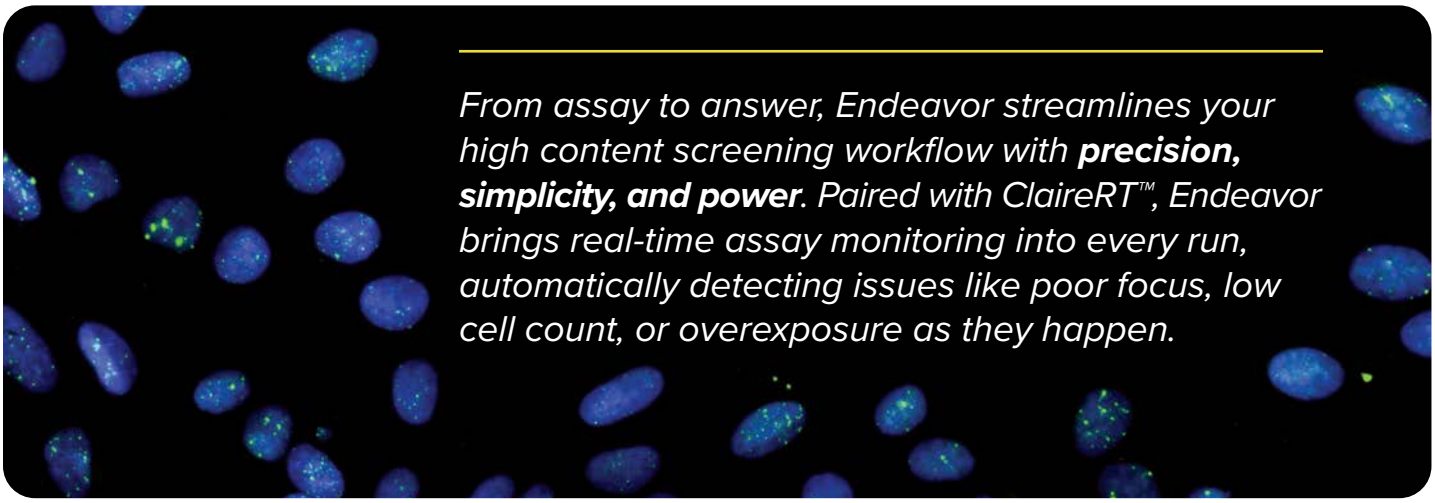
Araceli Endeavor Ultra is the fastest high content imaging platform available, delivering 1536-well plate acquisitions in under four minutes with sub micron resolution and unmatched well coverage.

The Workhorse You Can Rely On

Araceli Endeavor Pro is designed for labs that demand fast, reliable, high-resolution imaging across 96-, 384-, and 1536-well formats without sacrificing image quality or throughput.

Accessible High Content Imaging

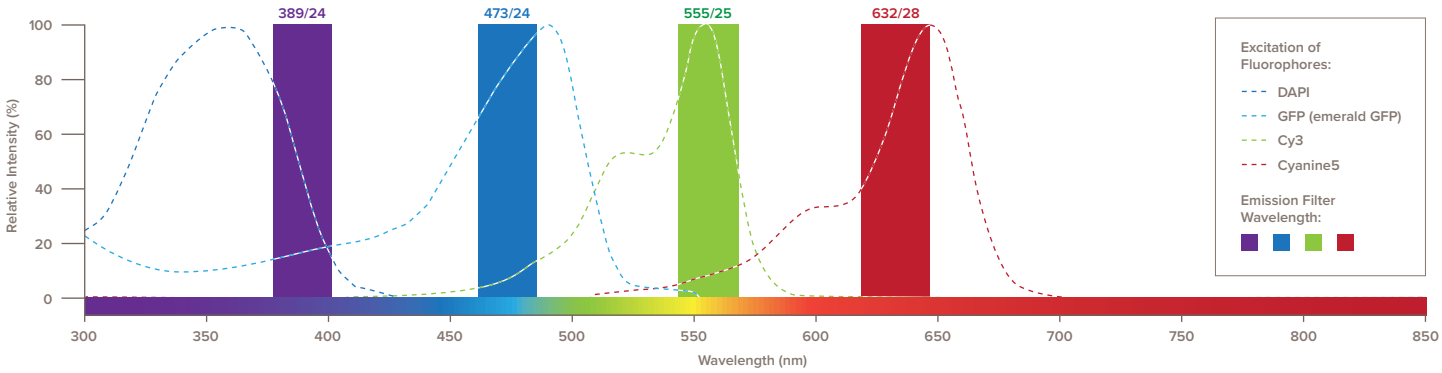
Araceli Endeavor Core brings the full power of high content imaging into reach without sacrificing performance or quality. Core delivers high-resolution, maximum-well imaging at a price that makes scaling possible.

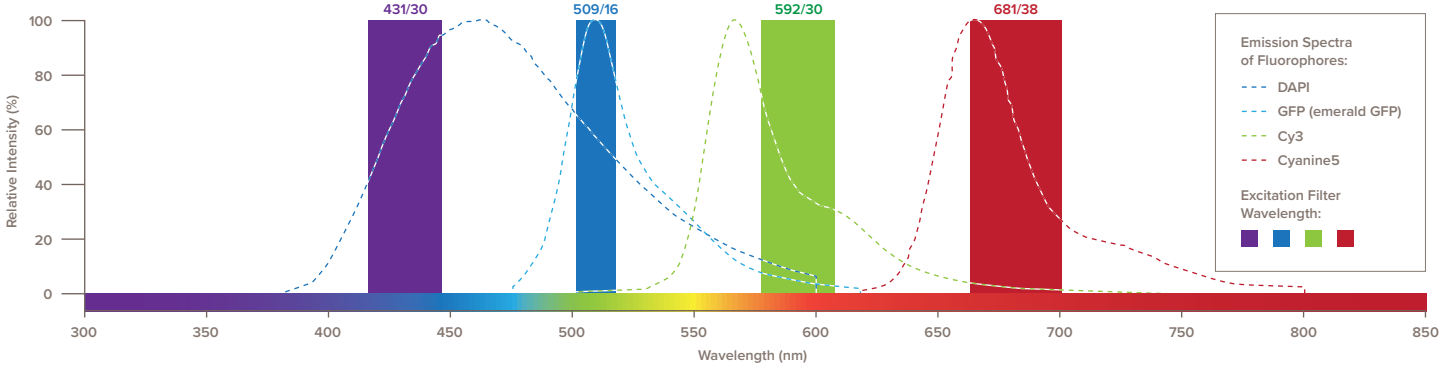


*From assay to answer, Endeavor streamlines your high content screening workflow with **precision, simplicity, and power**. Paired with ClaireRT™, Endeavor brings real-time assay monitoring into every run, automatically detecting issues like poor focus, low cell count, or overexposure as they happen.*

	ENDEAVOR ultra	ENDEAVOR pro	ENDEAVOR core
Throughput Plates per day (24 hr)	283	212	66
Acquisition Time per Plate (min)* Maximized Well Coverage	4	6	22
ClaireRT™ Compatible Real-time assay monitoring option	Add-on	Add-on	Add-on
Automation Compatible	●	●	●
Supported Microtiter Plates 96, 384, 1536	●	●	●
Laser Autofocus	●	●	●
Illumination LED wavelengths (nm) 390, 470, 555, 630, and brightfield	●	●	●
Digital Resolution 0.27 µm/pixel	●	●	●
Objective 20x, 0.75 NA	●	●	●
Camera 1.1" CMOS – 4400 x 4400 pixels	●	●	●
Parallelized Image Processing Proprietary light paths, full resolution	●	●	
High Performance Acquisition System	●		

*Single plane, 1.2 mm x 1.2 mm FOV; full resolution, 4 channels + transmitted light, B/G/FR/R/TL exposure in ms: 10/30/60/50/4, for supported microtiter plate formats; FOVs: 4x4 for 96, 2x2 for 384, 1x1 for 1536





ClaireRT™

Real-Time Clarity for Confident Imaging

In ultra high throughput screening, time lost is discovery delayed; yet confirming assay quality still means “spot-checking a few wells” and learning days later that images are flawed; wasting reagents, stalling momentum, extending timelines. **ClaireRT eliminates the wait.**

Coupled with **Araceli Endeavor**®, the fastest high content imaging platform on the planet, ClaireRT scrutinizes every image as it’s captured, serving up live image quality metrics in real time.

At the first sign of trouble, it can:

- Stop imaging a problematic plate
- Alert the lab of emerging issues
- Enable filtering of compromised wells from downstream analysis

With real-time heatmaps and automated alerts, scientists can ensure quality data **while the experiment runs**, iterate the same day, and course-correct before errors multiply.

No invisible errors. No delayed discoveries.
No waiting weeks for what can be fixed today.

Reduce Waste

Boost Efficiency

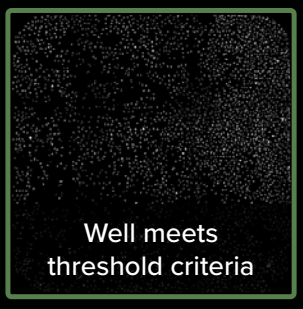
Improve Accuracy

Save Time and Costs

Efficient Use of Data Storage

ClaireRT turns data quality from hindsight into foresight, so your lab doesn’t just keep up with high throughput science, it sets the pace.

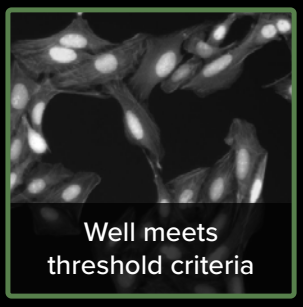
ClaireRT in Action

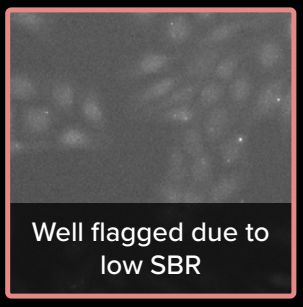

Well meets threshold criteria


Well flagged due to low cell count

Cell Count

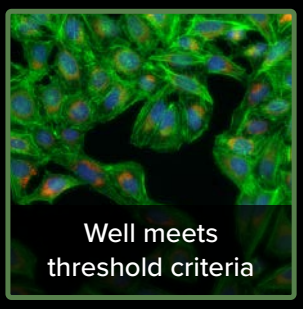
Ensure valid sample sizes for your experiment and detect issues with liquid handling systems (e.g., pipette strikes, clogged tips, etc.).

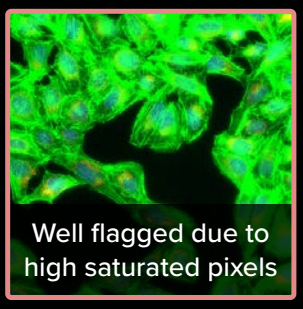

Well meets threshold criteria


Well flagged due to low SBR

Signal to Background Ratio (SBR)

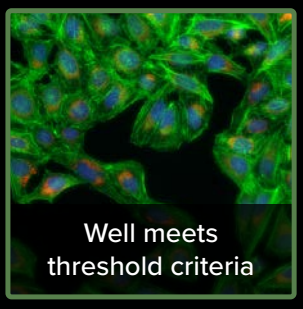
This metric is critical to ensure that downstream analysis can accurately extract features using classical methods or AI segmentation.

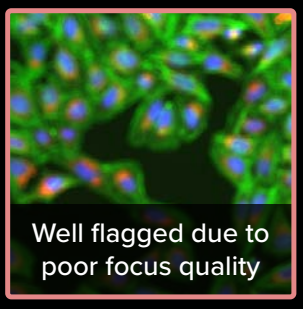

Well meets threshold criteria


Well flagged due to high saturated pixels

Saturated Pixels

This metric can be used to determine if an image can be used for analysis or if it needs to be re-imaged with different exposure settings.


Well meets threshold criteria


Well flagged due to poor focus quality

Focus Quality

Identify issues with warped plates, dirty plate bottoms, and empty wells that may negatively impact analysis results.

Clairvoyance™

Analysis That Can Keep Up

Speed

Accelerate your productivity journey with our cutting-edge analysis solution where getting results quickly is a certainty. Choose the right tools for the job and experience rapid speed with parallelized processing for your analysis. Don't settle for delays, supercharge your results with the speed you need!

Precision

How sensitive is your analysis to outliers, artifacts, and subjective parameterization? Clairvoyance analysis package provides data visualizations and purpose-built QC methods to support users throughout protocol optimization and ensure they proceed in the right direction.

Simplicity

Revolutionize your data analysis experience with our state-of-the-art platform featuring an effortlessly simple user interface. Navigating complexities has never been this intuitive; our user-friendly, biology-focused design ensures you easily command the power of advanced analysis.

Analyze in Batch

Purpose-Built for Big Data

Designed for Biologists

Quality Control at Your Fingertips

Analyze with Confidence

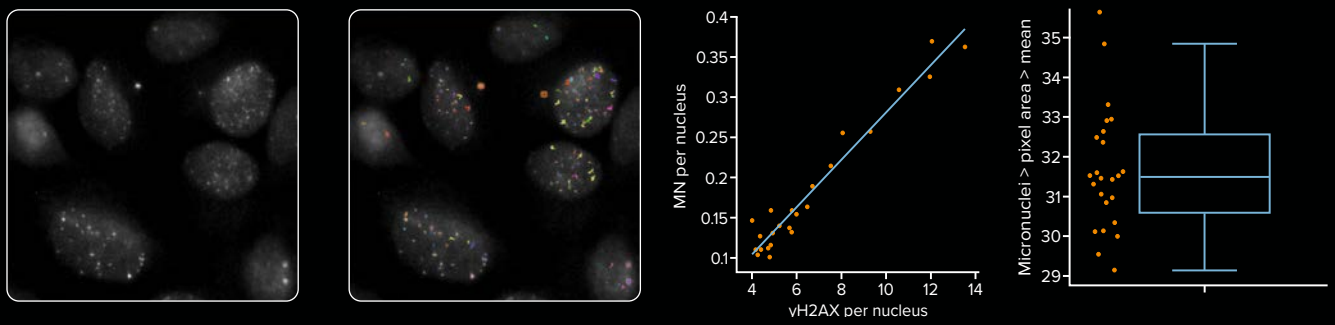
Uncover insights seamlessly, make data-driven decisions with confidence, and enjoy a transformative analysis journey that is both easy and powerful.

Clairvoyance in Action

Genotoxicity Assay

14.5 min analysis time

(with individual nuclear and spot-level statistics)

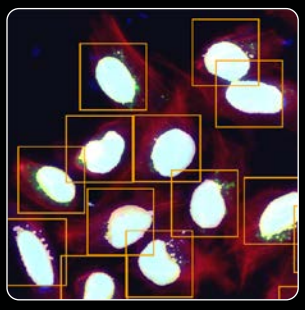


Multiparametric measurement of nuclear γ-H2AX and cytoplasmic micronuclear detection

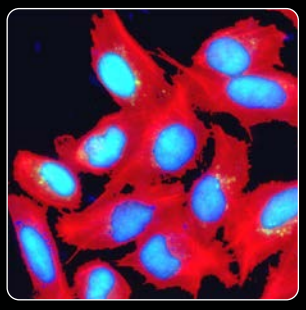
Autophagy Assay

18.9 min analysis time

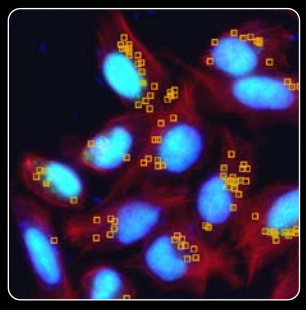
(with cytosol segmentation)



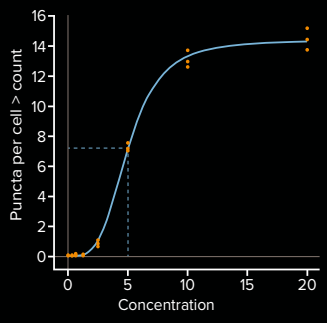
Nuclei Detection/ Segmentation



Cell Segmentation/ Cytoplasmic Definition



Cytoplasmic Spot Counting



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in bite-size pieces.

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