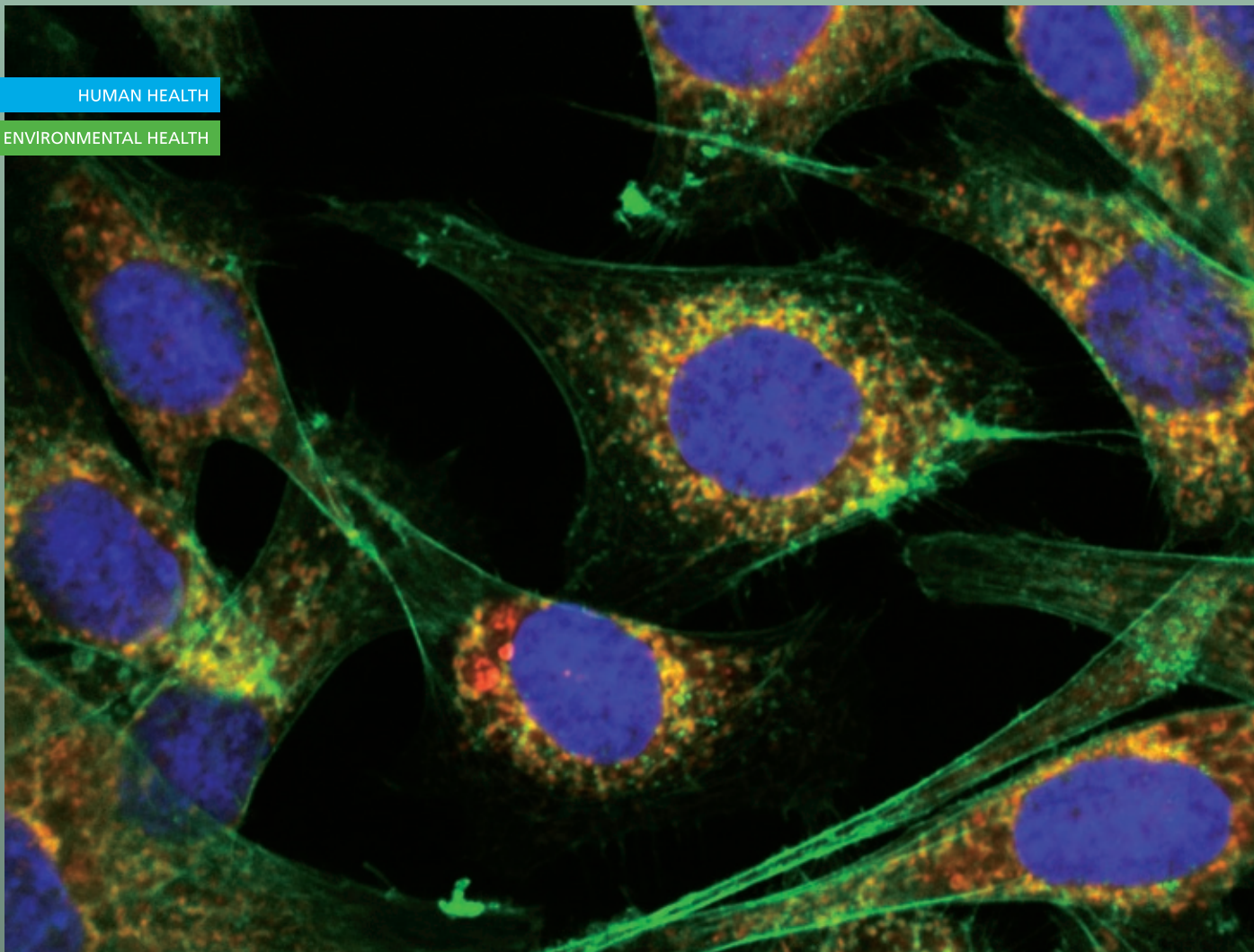


HUMAN HEALTH

ENVIRONMENTAL HEALTH



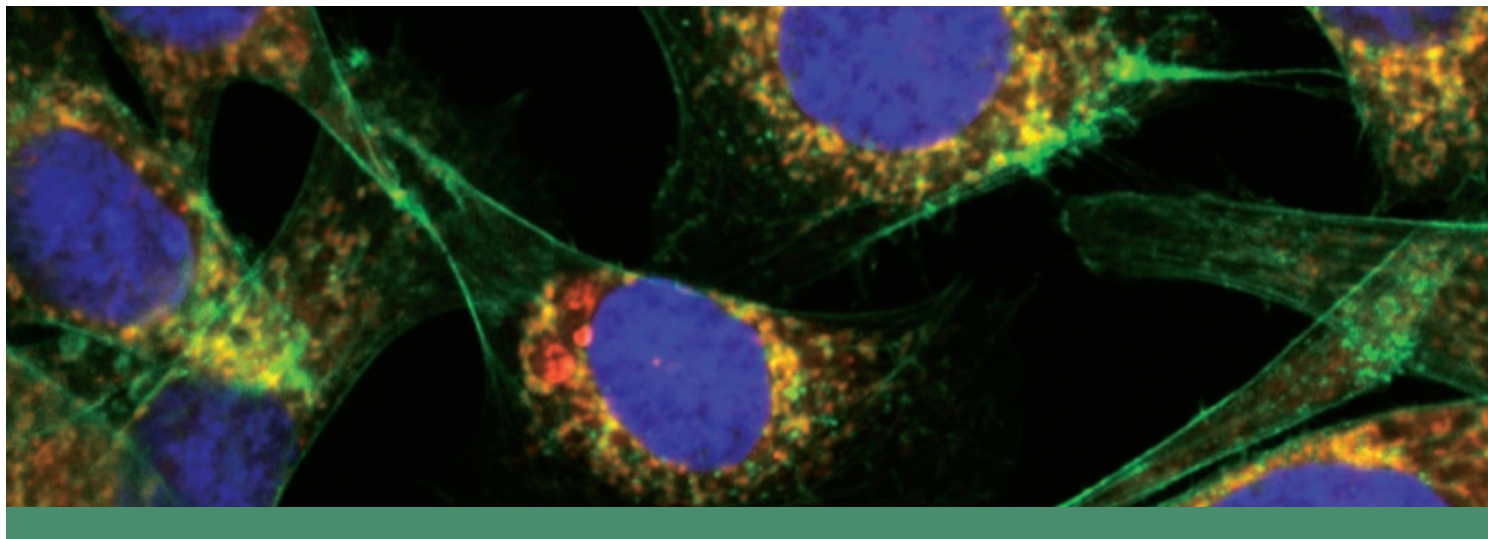
OPERA

THE ULTRA HIGH SPEED,
HIGH RESOLUTION
SOLUTION FOR HIGH
CONTENT SCREENING



Opera
High Content Screening System


PerkinElmer[®]
For the Better



OPERA

**SUPERIOR PERFORMANCE,
HIGH RESOLUTION AND
ULTRA HIGH SPEED**

The Opera™ is our premier confocal microplate imaging reader for high throughput High Content Screening (HCS).

Whether you need a fully flexible assay development station or an HCS with maximum automation capabilities, the Opera provides a fully scalable solution that can be tailored to meet your lab's needs now and in the future.

Exceptional optical quality is delivered by the unique combination of laser based point scan confocality and our proprietary, fully automated high NA water immersion objectives.

The system is well suited for both fixed and live cell applications. While Nipkow spinning disk technology minimizes photobleaching and phototoxicity, there's also a range of options for environmental control as well as live cell workstations.

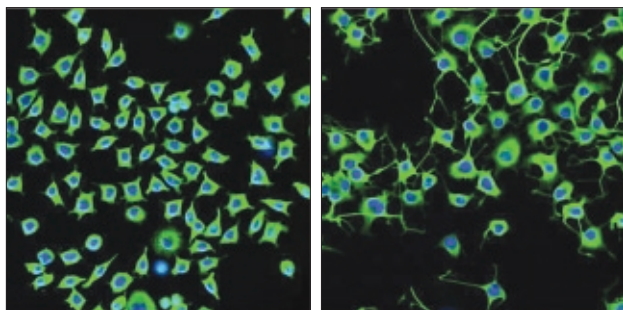
Designed to seamlessly integrate with the Opera, our Acapella™ software offers high speed online image data processing and fully flexible analysis for all high throughput, high content cellular assays, and in particular multiplex assays.

Drawing on many years of experience in providing HCS solutions, the Opera provides robust and reliable performance, fully supported by our global service organization and technical support desk.

EXAMPLE APPLICATIONS

Systems biology, RNAi screening

Analysis of gene expression, gene activity and protein regulation, cell signaling and pathway screening, target identification



Neurite outgrowth images acquired on the Opera using the 20X water immersion objective.

Drug discovery: Primary and secondary screening, follow-up testing

Ligand binding, receptor activation and desensitization, recruitment of signaling molecules, membrane ruffling, endocytosis, translocation, calcium flux, second messengers, ion channels, cell cycle

Toxicity testing

Cell viability, cell differentiation, cell proliferation, cytotoxicity, apoptosis, transporter phenomena, membrane potential phospholipidosis hepatosteatosis, peroxisome quantification mitochondrial mass, nuclear fragmentation

Stem cell screening

Reprogramming, proliferation, differentiation

Phenotypic assays

Neurite outgrowth, cell differentiation, cell adhesion and spreading, cytoskeletal rearrangement, migration, invasion



DESIGNED TO FOLLOW YOUR WORKFLOW

The Opera gives you the flexibility to tailor your HCS experiment to meet your needs. Whether developing your assay, generating your data or analyzing your results, you are in control.

Assay Development	
<ul style="list-style-type: none"> High NA water immersion objectives Optional environmental control Optional on-board dispensing Acapella script-based image analysis 	<ul style="list-style-type: none"> High resolution for resolving subcellular features Create temperature and CO₂ control Set up kinetic assays which require compound addition Flexible toolbox with a very open architecture for development of new assays without limitation
Screening	
<ul style="list-style-type: none"> Processor enabled, with online image analysis capability 	<ul style="list-style-type: none"> Automated handling, compound transfer, plate storage, incubation and washing Immediate image analysis
Post screening processes	
<ul style="list-style-type: none"> Seamless integration into Columbus™ Conductor image data management system 	<ul style="list-style-type: none"> View all Opera image metadata quickly, bridge to other instruments, and manage your data effectively
Support	
<ul style="list-style-type: none"> Expert team Technical support desk 	<ul style="list-style-type: none"> Specialist sales team that understands your science and can tailor the system to your application needs, and an experienced global service organization to support you in your lab Dedicated team of experts to support your applications, software and hardware

Acapella – Image analysis software

- > Set of ready-made applications for immediate use or to use as a starting point for developing applications
- > Flexible image data processing system that can be applied to a broad range of applications
- > Open architecture for creation of new assays to provide flexibility
- > Optimized for high speed online image analysis and for processing large data sets

Columbus – High volume image data management system

- > Comprehensive tool to manage, analyze, archive, retrieve and protect all your HCS image data
- > Centralized repository for all your image data
- > Uses the OMERO server and is based on an open protocol
- > Web-enabled so that it can be accessed globally by an entire organization for a cost-effective solution

