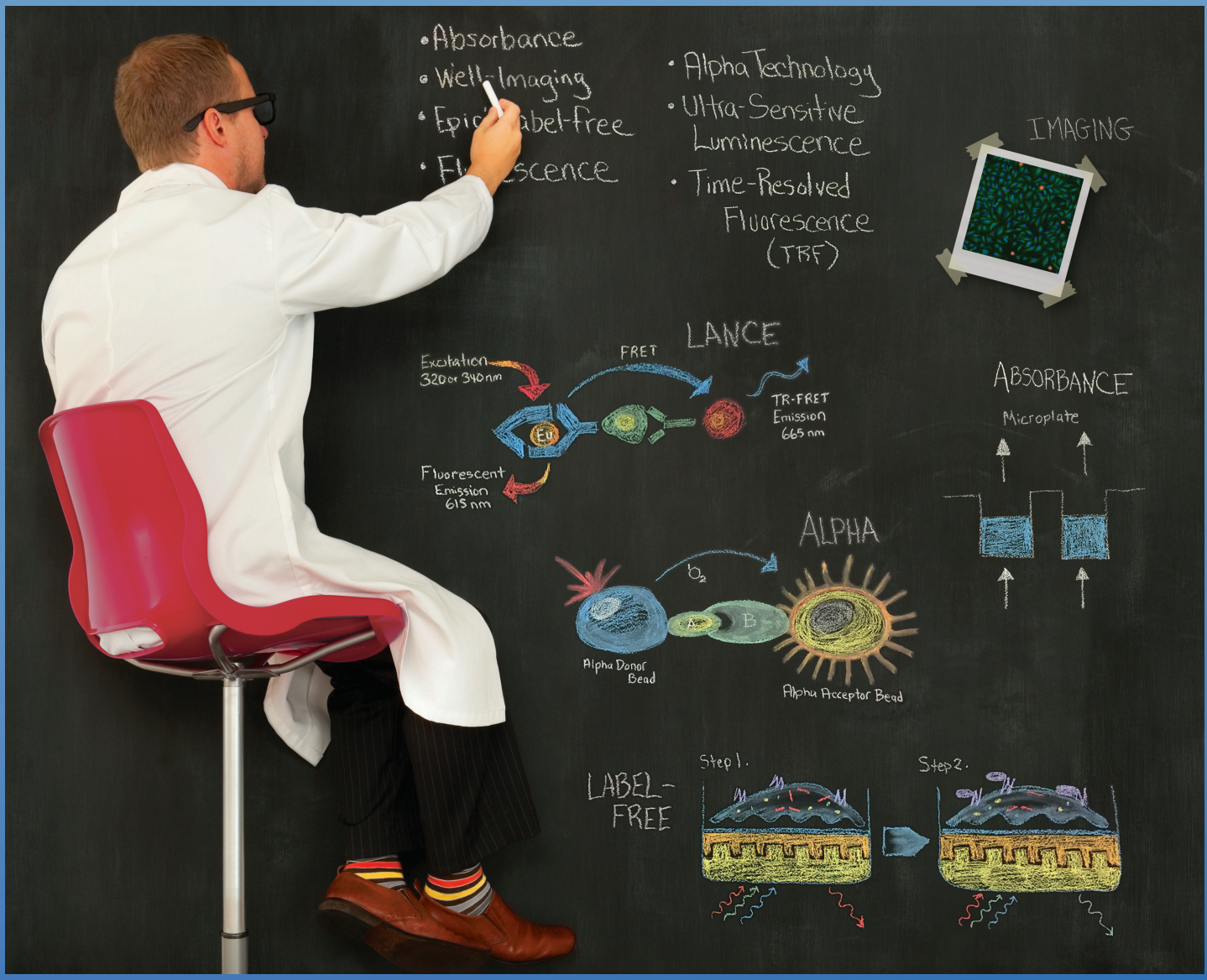


WHEN MULTIMODE MEETS IMAGING

YOU GAIN A WHOLE NEW PERSPECTIVE

EnSight™ Multimode Plate Reader

PerkinElmer®
For the Better

TRANSLATING RELEVANT RESULTS INTO REAL INSIGHTS

THE WAY TO GREATER CONFIDENCE IN YOUR RESULTS

Today's leading scientists are continuously seeking new ways to increase certainty and confidence in their results, improve biological understanding, and enable better decisions sooner. That's why they're taking an orthogonal approach to their research – combining target-based and phenotypic assays and using an array of detection technologies.

Drawing on more than 20 years' experience in multimode detection with our VICTOR™, EnVision®, and EnSpire® systems, the EnSight™ multimode plate reader delivers a unique combination of labeled, label-free, and well-imaging technologies that enables you to take a truly orthogonal approach to your research and gain insights you couldn't achieve before. All in a single benchtop reader.

The EnSight system's cell-imaging option, provided by the well-imaging module, brings image-based cytometry together with our industry-leading detection technologies for the first time, and in a modular design that lets you add detection modes as your needs change. Combine all that with workflow-based Kaleido™ data acquisition and analysis software, and you have a truly versatile plate reader that gets users productive quickly – making it ideal for multiuser environments.

The EnSight multimode plate reader: New insights. More relevant data. And greater confidence in your results.

The Right Technology and Modality for Every Application

- Well-Imaging
- Epic® Label-Free
- Alpha Technology
- Ultrasensitive Luminescence
- Absorbance (filter and monochromator)
- Fluorescence (top- and bottom-reading)
- Time-Resolved Fluorescence (TRF)

Temperature control to 65°C | Plate barcode reader | Plate shaking | Plate stacker

AN ORTHOGONAL APPROACH BRINGS NEW PERSPECTIVES

To have greater confidence in your results, you can adopt different approaches that yield alternative perspectives. The EnSight multimode plate reader enables you to take an orthogonal approach to your research, using many different modes of detection.

The right technologies for your application

Your plate reader needs to accommodate a wide variety of application demands. The EnSight system is extremely flexible, so you can select the right combination of technologies to match your research needs today – and in the future. You also benefit from our many years of experience in developing both reagent technologies and readers to achieve optimum results for your applications.

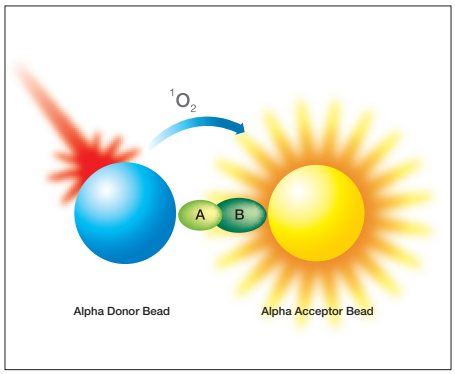
Alpha Technology

Eliminate time-consuming ELISA wash steps, extend the dynamic range, and improve sensitivity with this versatile, bead-based platform. Our proprietary AlphaLISA® and AlphaScreen® platforms let you detect virtually any molecule – from large endogenous protein complexes to very small peptides.

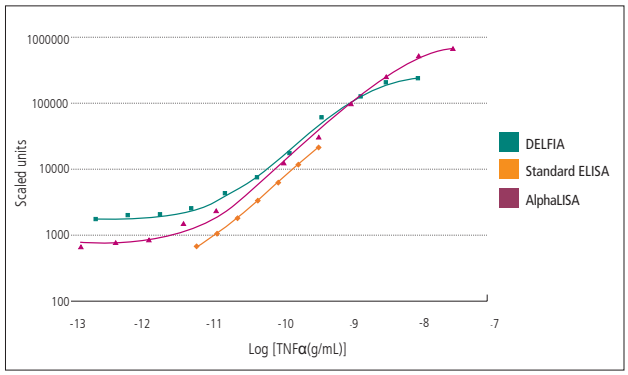
AlphaLISA technology offers the greatest dynamic range (no dilutions) and sensitivity, with almost two logs more signal at the lower detection limit than ELISA. Plus, it has fewer assay steps (no washing) and requires half the time to perform the assay.

Key Applications

- Biologics
- Biomarkers
- Epigenetics
- Next-gen ELISA
- Kinases
- Protein:protein interactions
- GPCRs



Alpha beads are brought into proximity by binding to the analyte via specific antibodies. The donor bead is excited by laser, releasing singlet oxygen that travels to the acceptor bead and induces emission of a light signal.



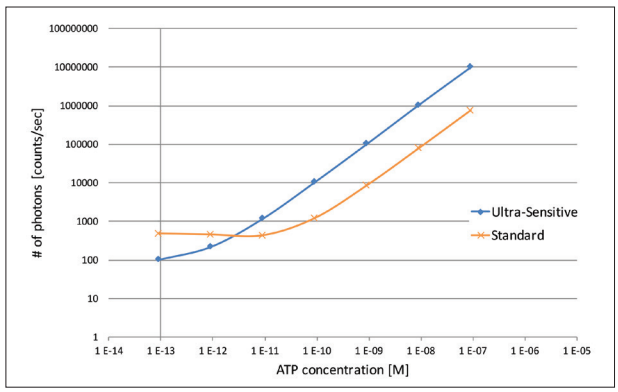
Compared to standard ELISA, AlphaLISA technology offers the greatest dynamic range and sensitivity, with fewer assay steps and a shorter protocol. For samples that require a wash step, DELFIA® TRF technology provides significant improvements to sensitivity and extended dynamic range.

Ultrasensitive Luminescence

If you're working with precious samples such as primary cells or are unable to detect your sample because of low signal, our unique ultrasensitive luminescence technology option could be the solution. You can see significant increases in sensitivity and dynamic range, and reduce reagent and substrate costs. And you can use it with our highly sensitive, homogenous lites® luminescence assays to generate optimum results from reporter gene, cytotoxicity, or cell-proliferation screening assays.

Key Applications

- Reporter genes
- Cell proliferation
- Cell toxicity and viability
- Circadian rhythm
- Primary cells
- Cellular assays
- Low transfection rates



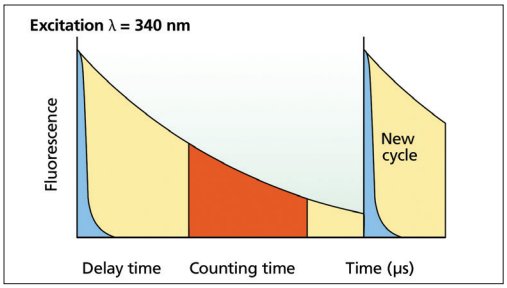
Comparing the ultra-sensitive luminescence module with a standard luminescence module shows a more than 10-fold improved lower limit of detection and a greater dynamic range when using same acquisition time.

Time-Resolved Fluorescence and TR-FRET

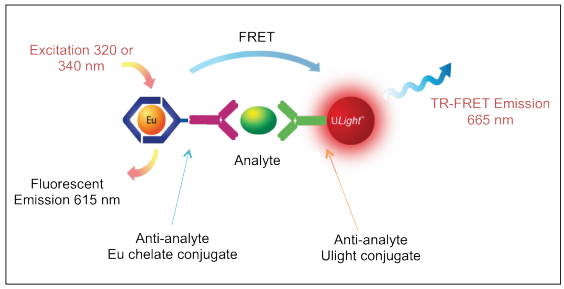
Improve the sensitivity and dynamic range of your immunoassays, even when sample is at a premium or in low concentration. TRF detection, together with our lanthanide-based DELFIA or LANCE® chemistries, offers enhanced signal-to-background ratio, high sensitivity, wide dynamic range, superior stability, and excellent flexibility for biological, cellular, or biochemical assays.

Key Applications

- Immunodetection
- ELISA enhancement
- Receptor-ligand binding
- Enzyme assays
- Cell toxicity
- Cell proliferation
- Biodistribution
- Protein:protein interactions
- GPCRs
- Biochemical kinase activity
- Epigenetics



In TRF, measurement is delayed after excitation until background emissions have decayed (Blue: Excitation pulse, Yellow: Fluorescence signal, Orange: Detection period).



Ideal for high-throughput screening, LANCE biochemical TR-FRET assays are sensitive, homogeneous, and easy to use.

Label-Free

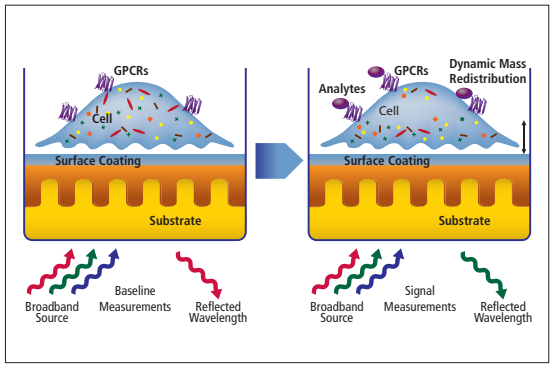
Labelled samples can lead to unwanted artefacts. With highly sensitive, optical label-free Corning® Epic® technology, you can generate rich, unbiased information from cell-based and biochemical assays without the need for labels.

Cell-based label-free technology works by measuring changes in light refraction resulting from dynamic mass redistribution (DMR), which occurs in response to receptor activation or deactivation in a zone within the cell's monolayer. For biochemical assays, the technology measures changes in the index of refraction on a binding event. For both assay types, the change is indicated by a change in reflected wavelength.

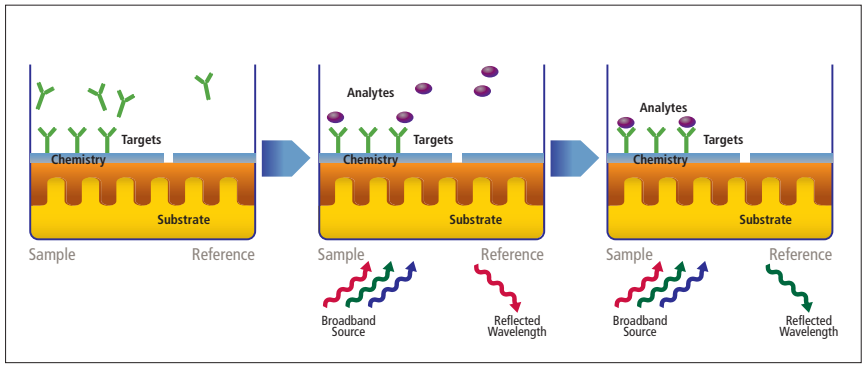
Key Applications

Cell-Based Assays
- GPCRs
- Pathway validation
- Receptor panning
- Ion channels

Biochemical Assays
- Protein:small molecule
- Biomolecular Interactions
- Proteases
- Binding-strength assays



Cell-based assays



Biochemical assays

Fluorescence and Absorbance with Quad Monochromator

Prevent high background when measuring fluorescent proteins, identify peak wavelengths more accurately, and eliminate the need to exchange filters: A quad-monochromator for fluorescence and absorbance enables you to select any wavelength and perform scans for the best possible signal-to-background ratio for fluorescence applications. You can also perform GFP and other fluorescence bottom-read cell-based applications.

Key Applications

- GFP, RFP detection
- ELISA
- Protein quantification
- DNA/RNA quantification
- FRET
- Gene expression
- Cell counting
- Colorimetric assays

FROM WELL TO CELL
MORE PHYSIOLOGICALLY RELEVANT ASSAYS

More predictive results with cell imaging

With the EnSight system's well-imaging module, you can bring greater physiological relevance to and gain new perspectives on your research. With its image cytometry capabilities, you can quickly and easily generate per-cell data, whether you're using fixed or live cells, performing end-point assays, or taking kinetic measurements over time – opening up a broad range of cell-based applications.

The EnSight system is designed to run cell imaging at high speed and performance, with an advanced sCMOS camera for low signal-to-background noise, laser-based autofocus for fast setup, and solid-state light sources (LEDs) for short illumination.

You can run multiplex assays sequentially, so a single color image can be generated in around five minutes for an entire 384-well plate, a two-color image in around six minutes, and a three-color image in around seven minutes. The system's speed makes it ideal for assay optimization and for assessing cell-based assay quality to reveal cell-seeding errors, improper liquid handling, and bacterial contamination.

You can select the imaging mode to suit your application:

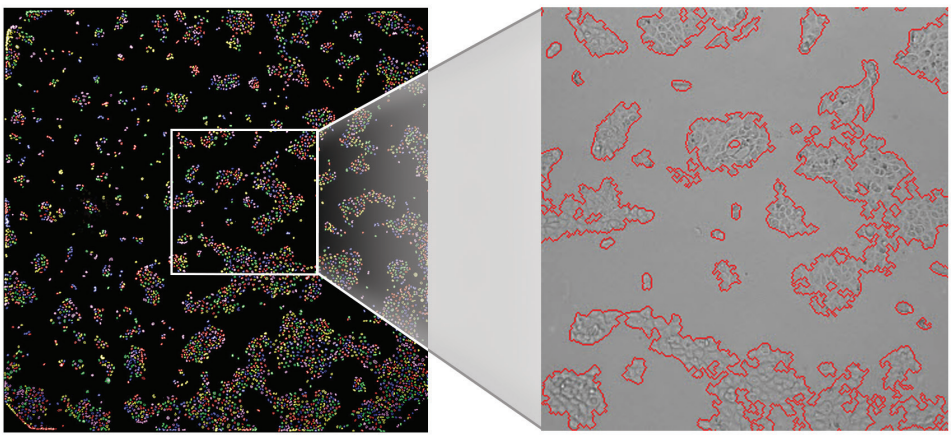
- Fluorescence intensity mode with LED light source and up to four colors (385/470/525/632nm), with excitation of three colors in parallel, enable you to visualize more parameters per assay
- Brightfield provides a fast, easy way to image cells without labeling
- Digital phase contrast imaging allows you to image live cells that have not been labeled fluorescently at greater resolution than brightfield

And select from the toolbox tasks in the Kaleido software to create your own imaging protocols for a broad range of applications:

- Object counting – Identify and count individual objects
- Object intensity analysis – Measure intensities inside different regions in objects
- Population analysis – Identify subpopulations of objects based on object properties or phenotypes
- Region detection – Detect regions of cells, tissues and other sample types in the well
- Region intensity analysis – Characterize regions and identify subregions

Key Applications

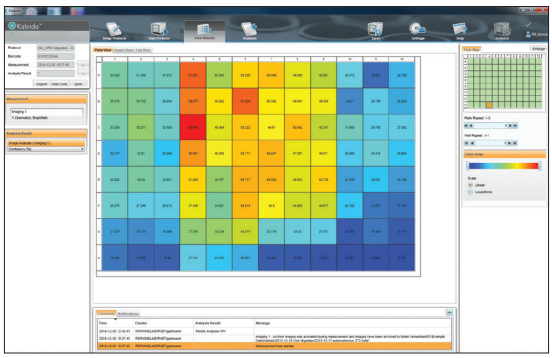
- Cell counting and normalization
- Cell migration
- Cell proliferation
- Cell signaling
- Clone selection
- Cell health and toxicity
- Confluency
- Transfection analysis
- Spheroid analysis
- Viral infection



Use brightfield digital-phase imaging to count cells (left) or determine percentage confluency (right) without the use of a stain (analysis mask applied). Fast, non-invasive, easy-to-use cytometry tools enable you to normalize data or perform quality assurance of critical steps such as cell seeding.

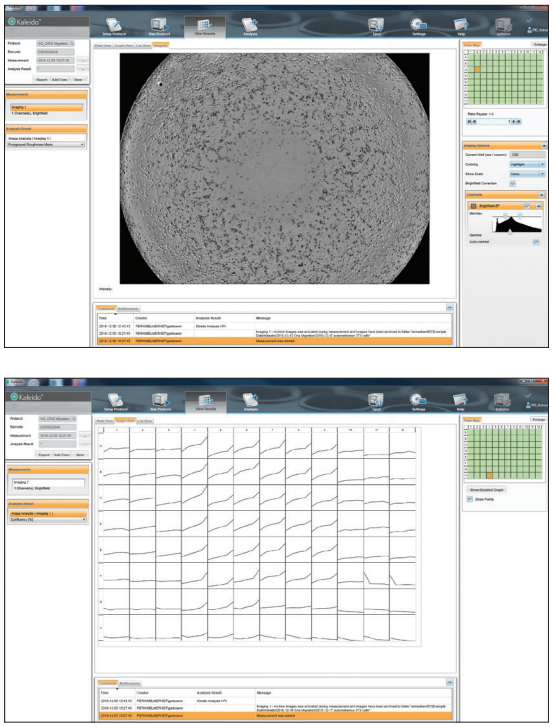
SOFTWARE THAT BRINGS IT ALL TOGETHER

Workflow-based Kaleido data acquisition and analysis software is simple to learn and gets you productive right away. The user interface guides you through your experiment, making it easy to set up and run your multi-technology protocols. You can also export your data or metadata as a single file for further analysis.



Kaleido data acquisition and analysis software has a workflow-based interface that guides you through your experiment.

Users can choose how to set up protocols based on their skill and confidence level. Ready-to-go protocols get you started quickly – ideal for beginners and everyday applications – while the software's task toolbox lets you combine tasks to build your own protocols, so you can get results quickly on a wide range of imaging applications. And you can take advantage of custom protocols for advanced applications, available on special request. Finding your way around the software and your data is easy. The search interface makes sorting and filtering data simple, so you can quickly find the protocols, plate types, measurements, and results you need.



Choose how to view your results – either in plate view, graph view, list view, or as images. Here you see the image and graph views.

Everything You Need to Move Your Research Forward

Visualize your data in a whole new way

The TIBCO Spotfire® platform brings together data from multiple sources for advanced data visualization and secondary analysis, allowing you to uncover opportunities, anticipate trends, and accelerate discovery. Assay specific templates – tailored to the analysis of plate reader data – enable rapid familiarization with the software, allowing you to quickly start exploring your data in a completely new way.

Assays and reagents for virtually any application

Our industry-leading reagents and assays include ELISA-alternative Alpha Technology, LANCE TR-FRET and DELFIA TRF, and lites luminescence assays. And if you don't find what you need, our specialist team can develop custom assay solutions for you.

Better microplates mean better results

We have microplates for virtually any assay: High-throughput cell-based assays, plates designed to preserve sample, label-free assays, cell imaging, and many more. Plus, we deliver half-area 96- , 96- , 384- , and shallow-volume 384-well plates in a variety of colors, to suit your assay requirements.

Count on our support

Your application needs are as individual as you are. So we take a consultative approach to every engagement with you. Our expert-global service and support teams, comprising of dedicated lab- and field-based applications specialists, can work with you in partnership to overcome the unique challenges your application brings.

Meet the Rest of Our Multimode Detection Family

Our comprehensive portfolio of multimode plate readers offers a range of detection technologies to ensure we have the needs of your lab covered. Combine them with our broad portfolio of reagents, microplates, and proprietary assay technologies and you have a complete solution that provides optimal performance in the application areas you rely on most. Choose the right reader for your lab's needs.





Detection Mode	VICTOR X	EnSpire	EnSight	EnVision	ViewLux
UV-Vis Absorbance	•	•	•	•	•
Luminescence	•	•	•	•	•
Fluorescence	•	•	•	•	•
Time-Resolved Fluorescence	•	•	•	•	•
TR-FRET	•	•	•	•	•
Fluorescence Polarization	•			•	•
Ultrasensitive Luminescence		•	•	•	
Quad Monochromators		•	•	•	
Alpha Technology		•	•	•	
Label-free Technology		•	•		
Image-based Cytometry			•		
TRF Laser				•	
Dual PMT Detectors				•	
CCD Camera Detection					•

Learn more at www.perkinelmer.com/ensight

PerkinElmer, Inc.
940 Winter Street
Waltham, MA 02451 USA
P: (800) 762-4000 or
(+1) 203-925-4602
www.perkinelmer.com

PerkinElmer®

For a complete listing of our global offices, visit www.perkinelmer.com/ContactUs

013120_02